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THE "CHICHIMECS" AND THEIR ANCIENT CULTURE, WITH NOTES ON THE TEPECANOS AND THE RUIN OF LA QUEMADA, MEXICO

BY

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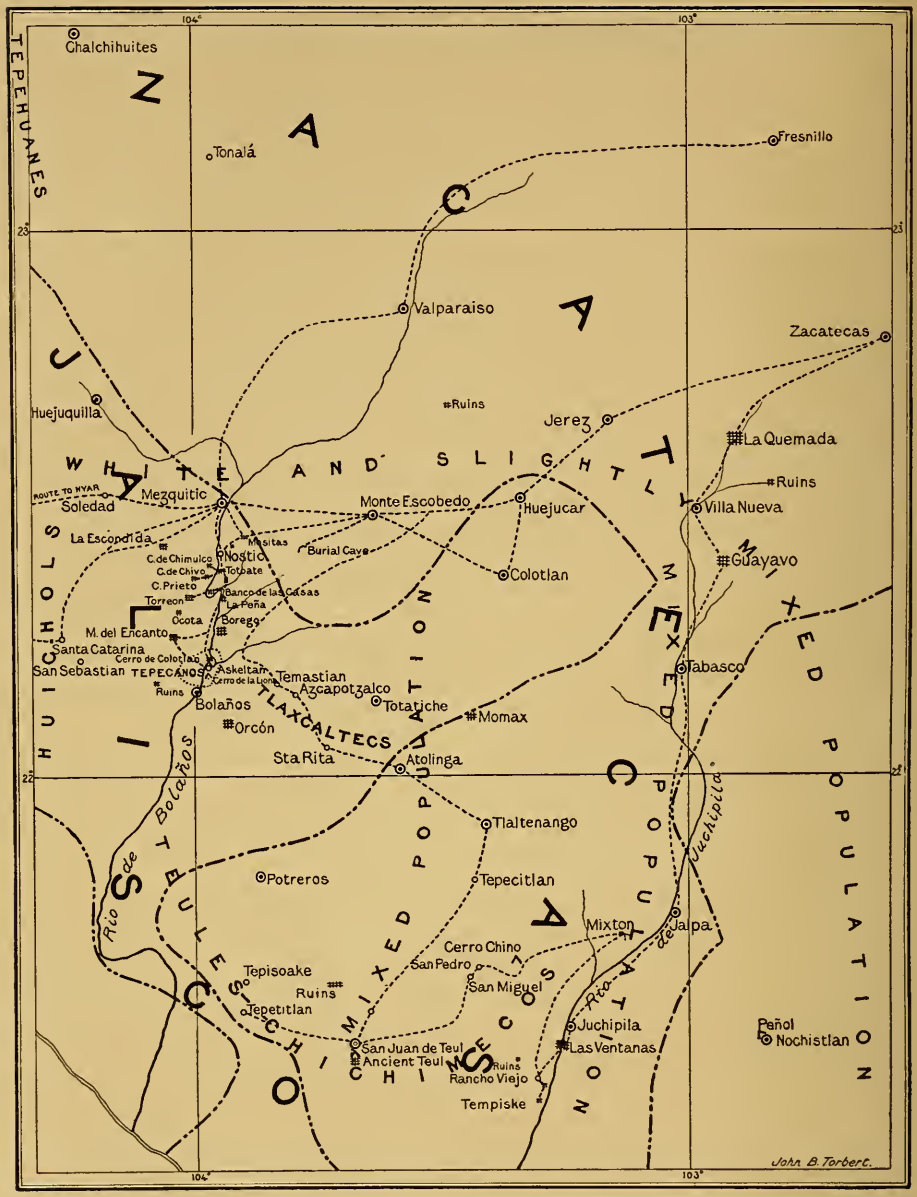

MAP OF NORTHERN JALISCO AND SOUTHERN ZACATECAS, SHOWING LOCATION OF RUINS AND AUTHOR'S JOURNEY

(‡‡‡ Ruins. —·· —·· State boundaries. - - - - - - Author's journey.)

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THE REGION OF THE ANCIENT "CHICHIMECS," WITH NOTES ON THE TEPECANOS AND THE RUIN OF LA QUEMADA, MEXICO[1]

BY ALEŠ HRDLIČKA

INTRODUCTION

The great mountainous region of northern Mexico that bore originally, with the Spanish, the name of Nueva Galicia and of which, somewhat subsequently, a large part was included in the Provincia de San Francisco de Zacatecas, is to this day an almost unknown country to anthropology. This region extends from the valley of Nochistlan in the east to the sierra of the Guachichiles or Huicholes in the west, and from the Rio Grande or Santiago in the south to the Tepehuane country in the north; that is, from a line about half a degree east of longitude 103° to a little west of longitude 104°, and approximately between 21° and 23° of latitude. The territory comprises the northern part of the present Mexican state of Jalisco, southern Zacatecas, and the western point of Aguas Calientes.

To the early Spaniards this was preëminently the country of *barbaros*, *caribes*, *mekkos*, and *chichimecos*, among whom were distinguished mainly the "Cazcanes," "Teules-Chichimecos," "Tepecanos," and "Zacatecos."[2] The term "Chichimec," whatever may have

[1] Published by permission of the American Museum of Natural History. Photographic illustrations from negatives by the author, now the property of the Museum.

[2] See Orozco y Berra, *Geografia de las Lenguas*, map and text; Mota Padilla, *Hist. de la Conquista de la Nueva Galicia;* Arlegui, *Cronica de San Francisco de Zacatecas;* H. H. Bancroft, *Native Races of the Pacific States*, vol. I; Icazbalceta, *Coleccion de Documentos*, t. II; Herrera, *Hist. Gen.*, dec. VII, lib. ii, cap. xii; Torquemada, *Monarquia Indiana*, t. I, p. 81 et seq.; and other historians.

been its meaning originally, or in the valley of Mexico, was here applied as a term of derision, or rather as a communal surname, expressing very much the same sentiment as *barbaros*, to all the tribes indiscriminately and without any expressed intention of connecting them ethnically with the Chichimecs of Anahuac or even with each other.

Judging from the number of warriors met by the Spaniards in this section, it is evident, even if an allowance be made for possible exaggeration, that it must have been well peopled; but there is only limited knowledge of the actual settlements. The best known of these were apparently Nochistlan and Teul; other larger towns occasionally referred to[1] are Juchipila and Colotlan. La Quemada is mentioned, but already as a ruin. All that is recorded of other settlements is that they were situated generally on steep and barely accessible elevations.

As to any possible remains of these settlements, or of the natives who built them, nothing is known. The great La Quemada alone has been visited and described by several archeologists.[2] Lumholtz, on his journey to the Huichols, touched the northwestern corner of this territory, but did not make any explorations or collections. Miss Britton, an American lady interested in an amateur way in Mexican archeology, visited, a few years ago, Totatiche, Teul, Juchipila, and Nochistlan, but thus far has published nothing on her observations.

The work on which I shall here report was largely unplanned and incidental. My presence in Mexico was in the interest of physical anthropology, and even in all the exploration and excavation that I finally undertook, the principal motive of my search was the physical remains of the prehistoric people. If I gathered anything more, it was for its intimate association with the skeletons and to save it from destruction, or, what is but little better, dispersion. In the more remote parts of Mexico, such as I speak of, nothing is saved. This is the home of the periodical treasure hunter, who, as soon as the dry season sets in and affords him leisure, goes to dig for money, buried during revolutions, wherever there is a cave

[1] Mota Padilla, op. cit., p. 55.

[2] Principally Berghes, Tarayre, Nebel, and Batres.

or a ruin. That is usually the last of the human remains of whatever nature that the cave or ruin contained, most of them being broken on the spot and the rest sold to the first comer or given to some friend or to children. Under these conditions Mexico itself should be grateful to those who at no small risk at times save here and there the relics of its past cultures.

The notes here published are a part of the results of three expeditions, from the last of which I returned at the close of 1902. The expense of the first of these journeys was borne by the American Museum of Natural History; the second by Dr Frederic E. Hyde, jr., and the last by Mr B. Talbot B. Hyde, of New York, the whole work being under the general supervision of Prof. F. W. Putnam.

It was on a journey from Mezquitic to the remnant of the Tepecano Indians, in the valley of the Rio de Bolaños, northern Jalisco, after having visited the Huichols early in May, 1898, that I learned of certain ruins in the neighborhood and made the first explorations. In the early half of 1902 I extended these researches southward through the valley mentioned, and in the latter part of that year pursued them farther southward and eastward to Zacatecas. My journeys are indicated on the accompanying map (plate XXXVII).

The present notes are given not so much as a record of results as an incentive to further investigation in the region; and they are made to follow, without regard to chronology, the route of travel. The descriptions of the archeological objects recovered and of the skeletons, as well as the detailed observations in physical anthropology, are reserved for future publication.

THE VALLEY OF THE RIO DE BOLAÑOS

The valley of the Bolaños is a deep *barranca*, in places several miles broad, situated between two parts of the sierra. It begins practically at Fresnillo, but more definitely a little above Mezquitic,[1] and extends in a south-southwesterly to a nearly southerly direction to and beyond Askeltan, the seat of the Tepecanos. The whole valley

[1] Originally San Juan Bautista de Mezquitic (see Mota Padilla, p. 354; also Arlegui), today a town of about 2500 inhabitants, situated in the northern expanded portion of the valley of the Rio de Bolaños, three days' horseback journey, or a little over 100 miles, from Fresnillo or from Zacatecas.

is traversed by the stream from which it takes its name and which was largely influential in its formation. Above Mezquitic, and again some distance below Nostic,[1] the valley is more or less "filled up" with secondary elevations and mesas, among which the river of Bolaños and its tributaries run in often narrow gorges with here and there high, steep to nearly perpendicular walls. The greatest width of the valley at its base may exceed eight miles (a little south of Mezquitic); in other places, as at the hot springs, it is but a narrow cañon. Geologically the whole region is granitic and volcanic. The river is mostly shallow and offers no obstacles to travel during the dry period, but becomes quite impassable at the height of the rainy season. The population south of Nostic to Askeltan is insignificant, and with the one exception to be mentioned later, is wholly mixed or Mexican. No Indians except the Tepecanos are now settled in the valley; but occasionally one here meets traveling Huichols and even Coras. The valley is the westernmost of four (Nochistlan, Juchipila, Tlaltenango, and Bolaños) extensive and nearly equally deep, parallel depressions, that run, separated by high mountain ridges or narrow plateaus, from north to south through the region under consideration.

Indian Occupants North of Askeltan

In the Mezquitic part of the valley there are some rather vague traditions among the whites in regard to Indians who occupied the district "a long time ago." There are other and more definite traditions of occupancy of parts of the valley more recently by the Huichols. I was shown caves near Mezquitic with remnants of rude stone habitations, where it is said these Indians have dwelt, and I have found figures of deer on stones looking very much like those made by the Huichols of today. As the mountain range of this tribe forms one of the western boundaries of the valley, the fact that there were at some time some Huichol settlements in the valley itself is quite possible.

In Nostic there still lives a single pure-blood Indian (Macias) who is a remnant of those who occupied the pueblo during the first

[1] A small but old village ("Nastic" in Mota Padilla, p. 354) about four and a half miles south of Mezquitic, on the Rio de Bolaños.

half of the nineteenth century. This man, who is about seventy years of age, informed me that during his childhood the natives in Nostic were still numerous, but were annihilated by epidemics and during a revolution. They spoke the "lengua Mexicana," which is the Nahua (a fact confirmed to me independently by the Tepecanos); this makes it probable that they were the progeny not of the original people of the pueblo, but of the introduced *fronterizos* or Tlaxcaltecos.

Ancient Ruins in the Valley of the Rio de Bolaños

Remains of Indian occupancy, such as stone implements, shell ornaments, pottery, etc., are found throughout the valley of the Bolaños; but there are also a number of more or less large and well-defined settlements which will repay further study.

Mesitas. — The first ruins of any extent occur southeast of the town of Mezquitic, and are situated about half-way between this and Nostic, on a part of a smaller irregular plain or terrace at about the middle of the eastern slope of the sierra of Monte Escobedo. The terrace is over a mile in width, and where the ruins are situated it is riven by a number of deep, narrow gorges. These gorges converge from all directions into a common cañon, which, in the form of an ellipse, completely surrounds an oblong, central elevation, the top of which is diamond-shaped. The result of the formation is a number of converging points of land with the isolated part in the middle. During the rainy season this central part is completely surrounded with water, and is then actually an island.

The surfaces of all the points, as well as that of the central part, are level, and show in most places only the bare bed-rock; but in a few spots there is a thin layer of black soil. The sides of the points, as well as those of the central part, are steep, and most of them can be scaled only with difficulty. From a yard to several yards from the top the rock on some of the points is perpendicular, and this feature is very pronounced about the entire central portion.[1]

The central mesa measures two hundred paces in length and forty in maximum width; and it, as well as the various points, is

[1] Such cliff formation is quite common about mesas or table-mountains in Mexico.

covered with ruins. The place bears no name, but from its character it will be referred to as the Mesitas.[1]

The more important ruins are found on the middle portion. There were apparently habitations as well as other large structures on this portion, and there was also a conical mound of moderate size. The remains invariably consist of low, square or oblong foundations, built of quadrangular stones, of moderately large dwellings. Most of the dwellings were somewhat larger than are the average huts of the Huichols today.

The foundations are quite regular in form. They consist of one, two, or exceptionally of three superimposed layers of flat, quadrangular stones, varying from a foot and a half to more than three feet in length, from a foot to two feet in width, and from two to four inches in thickness.[2] The stones were apparently carefully selected, so as to form a fairly compact and regular wall. Some of the stones seen were nicely hewn or rubbed into the desired shape. No cement or mud mortar now remains in the joints of the masonry.

The main body of the house must have been of wood or reeds, as there are but very few loose stones about to account for the superstructure; however, I have never found a trace of wood on or in the ground about the foundations, which absence probably speaks for the age of the ruins. According to all indications the wooden parts of the dwellings were placed but superficially, and in time were completely washed away or destroyed by other agencies. No fireplaces are visible, these also probably having been washed away. The foundations of the houses are in some places almost entirely exposed, resting on the bed-rock; in others they are nearly covered with accumulated earth. The entire group of ruins bears indication of having been abandoned in the far past, and of having been disturbed but very little since, except by the elements. There are no traces today of ancient cultivation of the soil in the neighborhood.

Potsherds and pieces of obsidian were found scattered in all the ruins, but were not very numerous. The potsherds collected[3] are

[1] *Mesa*, 'table,' 'table-land'; *mesita*, a small mesa.

[2] Specimens 30–10661, 10662, 10681, in the American Museum of Natural History.

[3] These, as well as the majority of the specimens mentioned in this paper, are deposited in the American Museum of Natural History, New York City.

mostly thick, crude, and unpolished, but some are decorated with incisions or painted red on one surface. Besides these, however, there were found fragments of thinner and finer pottery, nicely colored on one or both sides, generally in red or brownish, and in most instances polished.

The central mesita is exceedingly difficult to scale, and it has probably been visited but very few times since it was originally abandoned. The place was apparently fortified, for there still exist accumulations of stones, well adapted to defensive purposes, along the edges and particularly about the single possible approach, toward the northeast. A number of the structures here were much larger than the ordinary dwellings, and two or three of them were situated on a slight artificial elevation. The foundations of all these larger houses are like those previously mentioned, quadrangular and very regular, but there are more hewn stones found in them than in the foundations of the dwellings proper. All the large buildings and the mound are situated on the northeastern three-fifths of the mesita.

Examination of the surface and slight excavation in the ruins and mound resulted in finding two large, well-made stone mortars; two slabs of stone with markings; a small, nicely made stone fetish (animal figure); a well-chipped white stone arrowpoint; and many potsherds and chips of obsidian. The larger mortar, made of the hard trachyte of the region, crumbled to pieces from the effects of long exposure, as if made from very soft sandstone.

The mound was almost wholly made up of stones and proved to be a burial mound, containing the remnants of a number of cremated human bodies. It was here that the animal figure was discovered.

A cave was found in the southeastern wall of the central mesita, but it contained only a few potsherds.

Information from all sources was gathered concerning other ruins in the valley, and gradually a considerable number of localities where some one knew of ruined *fincas* were recorded. But the information was generally meager and not always reliable. Many of the localities mentioned were distant as well as difficult of approach, but the results of my visits generally proved to be more interesting than was expected.

Nostic. — La Escondida. — On the mesas to the east of the little town of Nostic are some remnants of old habitations. From one of these I have seen a very well made, even somewhat artistic, large, circular stone that probably served as a pedestal to a statue. In the fields about Nostic ancient objects are found quite frequently. To the west of Nostic rises a hill called Potrero de Chimulco, or Cerro de Chimulco, upon which ruins are found; and farther in the same direction, at the foot of the Sierra Huichol, near the rancho La Estancia, is a large, important ruin called La Escondida. In this ruin, which was explored only superficially, there are many remnants of dwellings similar to those at Mesitas and also larger structures and mounds. From this ruin I obtained several objects, among which is a fine ceremonial axe; and from an apparently ancient burial in a nearby cave was excavated a complete skeleton.

Totoate. — The third ruin, and one that proved to be of much archeological interest, lies a little less than three miles south of Nostic, on the point of a long, isolated, generally steep-walled but not lofty mesa, which for two-thirds of its extent is river-bound. The point which projects northward like a ∧ into the expanding part of the valley is covered with the ruins of an ancient settlement. This is known as Totoate, a name apparently of Nahua origin and pertaining to water. This is the only ruin that was explored at all thoroughly, and the results were very surprising.

As at the Mesitas, the southern portion of the point is covered with ruins of smaller structures, probably dwellings, while on the extremity itself, to the northeast of the body of the ruins, I found a group of mounds a rough sketch of which is given in the accompanying illustration (figure 9).

The ruins consist only of foundations, or bases, and are of the same general character as those at Mesitas or La Escondida; indeed this is true of all those yet to be mentioned in this region. Hewn or rubbed, oblong building stones are more numerous at Totoate than in the other ruins. The smaller structures, mostly of quadrilateral but a few of circular form, are rather close together. The surface soil is rich in fragments of thick and crude as well as of finer, painted pottery, and in chips of obsidian, chalcedony, and other stones.

The first noteworthy find in this ruin consisted of a considerable number of stone slabs and several portions of the bed-rock (one of which measured over six yards square), with peculiar, unusually well made and deeply graven petroglyphs. These carvings are all executed in a similar manner, and are very different from those generally seen farther north. They consist of broad, deep grooves, principally curves, and of cup-shaped hollows in the course of the

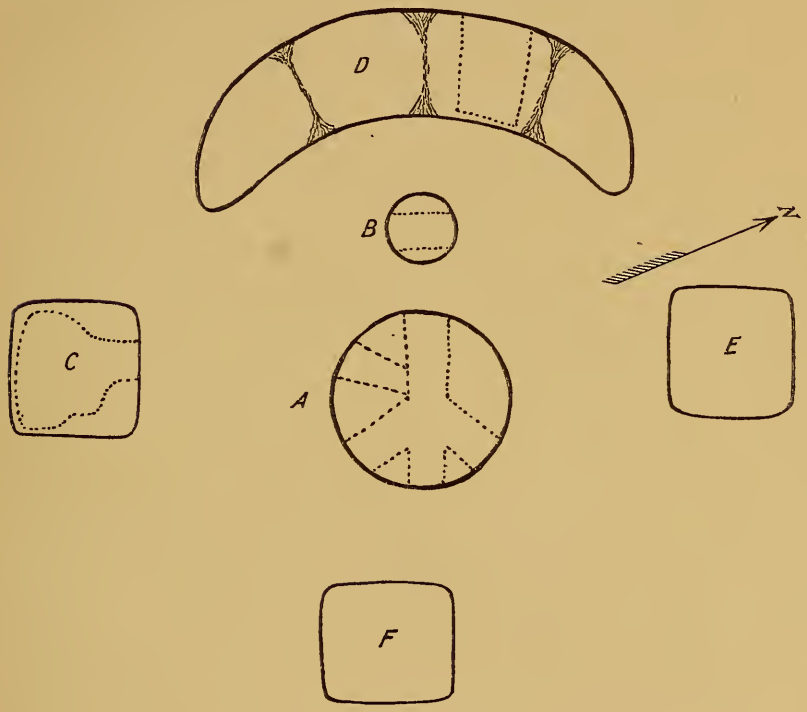

FIG. 9.—The mounds of Totoate. (Dotted lines indicate the author's excavations.)

lines. Many of the forms represent a coil or a part of one, others a human-like figure with a head-dress or striæ radiating from the head, and there are still other designs. These carvings, although deeply made in hard trachyte, are so greatly weather-worn as in some instances to be barely traceable (plate XXXVIII and figure 10).

Owing to limitations of space I shall omit details and restrict myself to the statement that in search for burials I excavated mounds

A, B, C, and a part of D (figure 9). Mound A was nearly 200 feet in circumference and over 11 feet in maximum height. It consisted of a thick outer layer of stones (including some broken slabs with petroglyphs), beneath which was a large quantity of stones and earth, and of a central stone house of seven or eight rooms, a part of which was filled with stones and earth and a part with stone-covered cremation burials.

The walls of the house were over seven feet high, well built of selected but unhewn flat stones laid in and plastered with adobe mortar. This adobe coating (a piece of which is preserved in the

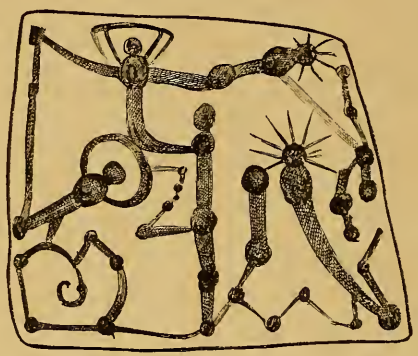

FIG. 10. — Detail of rock-carvings shown in plate XXXVIII.

American Museum) was mostly destroyed; but the remnants found show many small parallel tubes, such as could be produced by extended stalks of *zacate*.[1] There were small doorways and little square niches in the walls, recalling similar structures in the ancient pueblos of New Mexico.

The remnants of cremated bodies were closely packed in three of the central rooms, and with them were buried many fine specimens of pottery, some of which are unique in character (plate XXXIX), as well as other objects. There were also charred remnants of well-woven cloth, large shell trumpets, shell nose-ornaments (plate XLI, 1–6), ornaments of pyrites, amazon-stone pendants, obsidian knives,

[1] Apparently exactly similar specimens of mortar have been eported by Guillemin-Tarayre from La Quemada ruin. See *Archives de la Commission Scientifique du Mexique*, t. III, pp. 374–375, Paris, 1869.

ONE OF THE PETROGLYPHS FROM TOTOATE
(Maximum height, 68 cm ; maximum breadth, 71 cm)

a fine ceremonial axe with a well-carved human face (plate XL, 3), etc.[1]

Mound B, less than half as large as mound A, was composed of stones with some earth. Near its floor was an ordinary burial. No objects other than the bones were found here and these soon fell to pieces.

Mound C, which was large and flat, was composed of stones and earth, and yielded a number of burials of the ordinary type, some crude and some fine pottery, a quantity of amazon-stone beads, etc.

Mound D (uncompleted excavation) was found to be composed of probably four originally separate structures, the ruins of which have coalesced. Remnants of stone walls and two burials were found.

The cremated bones from mound A, all of which, though in small fragments, were preserved, belonged mostly to men, but there were also the bones of some women and children. Judging from these remnants, over fifty bodies must have been deposited in the three rooms. Many of the skulls are remarkable by reason of the thickness (non-pathological) of the cranial walls. Enough was reconstructed of two or three skulls to show their identity with those of the ordinary burials, as well as with the skull obtained near La Escondida, and with another later found south of Totoate. They all belonged to a subbrachy- to brachy-cephalic people of not very large stature (as shown by the remnants of the skeleton) or other proportions.

Cerro de Chivo. — Cerro Prieto. — To the west of Totoate, on the opposite side of the river, rises a more readily accessible mesa of similar height to the last. It is known as Cerro de Chivo (Goat hill) and its point shows numerous remnants of habitations similar to those of Totoate and Mesitas. A little farther to the west rises a higher, isolated ridge called Cerro Prieto (Dark hill), on which are also many remnants of ancient dwellings.

To the east of the mesa of Totoate lies a shallow valley, and here, as well as farther south, in the valley of an arroyo that opens from the east, are many low remains of stone habitations and also stone ridges that had been employed most probably for some agricultural purpose.

[1] Almost exactly the same form of stone axe has been found at La Quemada. (See Batres' report, pl. XX.)

Banco de las Casas. — Seven miles south of Totoate, and at the base of the southern extremity of the same mesa, is a small, now Mexican settlement called Temoaya. A little west of this, on the southernmost point of the mesa, is a quite extensive ruin. The locality is known in the neighborhood as the "Banco de las Casas."

The ruin extends over two terraces of the mesa. It consists of many low stone foundations such as those at Totoate; but on the lower and more southerly bank there are remnants of larger

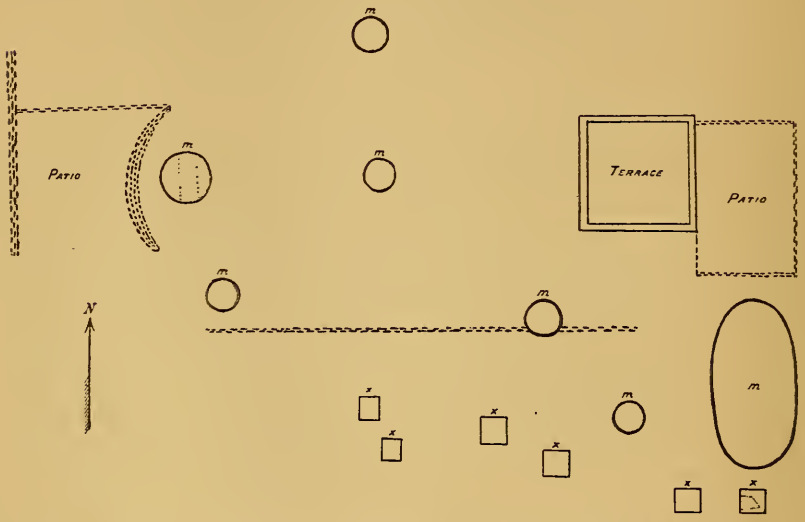

FIG. 11. — The mounds, etc., of the principal portion of the Banco de las Casas ruin.

structures, a number of *mogotes* (mounds), a ruin that probably was a temple, several very low, small, regularly square mounds, and a number of walls and *patios* (figure 11). A brief survey and a little digging resulted in the finding of a remnant of a large metate carried on the back of an animal figure, probably a turtle; several larger stones with petroglyphs, somewhat similar to those of Totoate; a number of oblong, conical stones without marking, some of which stood upright in the ground, apparently as originally planted; fifteen or sixteen oblong, nicely worked stone slabs with a large angular notch in the middle of one of the longer sides (figure 12);[1]

[1] These stones were often found in pairs, and if superimposed the notches would form a central aperture.

THE INNER AND OUTER SURFACES OF TWO PAINT-INLAID BOWLS FROM TOTOATE

two slabs with central circular perforations, and a number of other larger worked stones; a ceremonial, animal-form axe, and a few smaller articles. Slight digging was done in one of the conical mounds, but nothing was discovered.

The "temple" was a nearly square structure fifty to sixty feet in diameter. The stone walls are still six to ten feet high above the ground and on the top nearly six feet thick, built of selected but unworked flat stones. No trace of mortar is now visible. The inside of the structure had been intentionally filled with stones. Apparently the structure was originally a large, low pyramid or base, with possibly a wooden superstructure. In the filled area I found a large central depression, and near the sides a number of filled, crude stone cysts or holes leading downward; a few fragments of

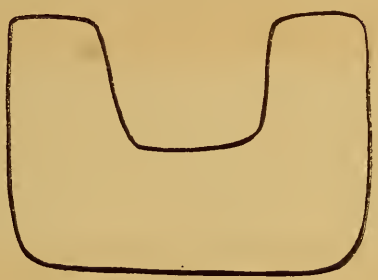

FIG. 12. — Stone slab with a large notch, from the Banco de las Casas ruin. (About one-sixth natural size.)

human bones were recovered from the only one of these which we explored somewhat. Later on I came across an almost identical cyst in the stone-filled court of the temple of La Quemada.

Torreon. — *Ocota.* — Looking directly west from the Banco de las Casas ruins, one sees rising a few miles distant from among the flatter elevations an isolated, steep, moderately high cone, locally known as the Torreon. The hill can be approached only by a circuitous road and with considerable difficulty; but at its base, on the Banco de Zapote, as well as on the top, are found ruins of a large pueblo. Not very far from here, to the south, is a ranch called Ocota. The character of these ruins is the same as that of those already described.

La Peña. — A little south of Temoaya, and on the east side of the river, is a steep eminence, called La Peña, which is acces-

sible only with difficulty. The somewhat saddle-shaped top of this hill was apparently a fortification, and there are also well-preserved ruins of structures that probably served for religious purposes.

Mesa del Encanto. — Proceeding southward from La Peña one soon reaches a place where the river flows through a narrow cañon, between high and steep granitic walls that reach a particularly great height toward the east. Not far below this point, at the base of the eastern wall, is a large spring of hot water containing considerable sulphureted hydrogen. In the rocks of the neighborhood, and farther southward, are a number of caves, in some of which I came across chips of obsidian and other traces of Indian occupancy; none of the caves, however, contains structural remains.

Below the "ojo caliente" the country on both sides of the river down to Askeltan contains many more or less isolated mesas, and on several of these are found remnants of ancient habitations. In at least three of these localities the ruins are of sufficient importance to deserve separate mention. One of these locations, known as the Mesa del Encanto, is an oblong, entirely isolated piece of tableland, generally similar to although larger than the central portion at the Mesitas. This tableland, which is known also as the Cerro de Vonash, is a part of a larger elevation, called the Mesa de las Moras, and is situated a little more than three hours' horseback journey northwest of Askeltan.

The entire surface of the Mesa del Encanto is covered with the well-preserved foundations of stone structures, of the same general character — low, square or oblong, or more rarely rounded — as those of the ruins previously described. All these are constructed of stones more or less worked. There are three larger ruins, two mounds, and a sort of broad, long avenue bounded by very large slabs standing on edge. A part of the mesita (where at all accessible) was apparently fortified with stones.

Borego. — In nearly the same latitude, but on a mesa east of the river and best reached from the town of Monte Escobedo, lies the ruin of a large settlement called Borego (a sheep). I did not visit these remains, but according to information from a number of persons they are essentially identical with all the ruins previously de-

OBJECTS FROM THE TOTOATE GROUP OF RUINS

Figs. 1–7, Axes with human or animal heads; Figs 8, 9, 12, 13, Lithomage figures of animals; Figs. 10, 11, Clay figures of animals (All reduced in size)

scribed, and, like the others, give promise of rich reward for prolonged and careful investigation.

Cerro de Colotlan. — The ruin known as the Cerro de Colotlan lies only about four miles by circuitous roads north-northeast of Askeltan. Although not very large, this seems to be one of themost promising ruins of the Totoate group for archeologic exploration.

The main part of the ruin is situated on a small but steep mesa, accessible from but one direction, on the right bank of the Rio de Bolaños, which at this point makes a sweeping curve. Several stone mounds, one of them particularly large, arranged much like those at Totoate, are found at the northwestern base of the mesa.

The ruins on the flat top of the cerro must have served some important religious purpose. On the northwest extremity of the hill is a large, square *patio* or court nearly fifty feet in diameter, surrounded by a stone wall (three to eleven feet high), or rather ruin, for in some parts of it there very probably were rooms which are now filled or covered with building stones. Next to this large court, on the southern side, is a smaller one, formed on a low stone terrace about two feet in height, ascent to which is facilitated by three stone steps. A short distance eastward from this is a large, low, flat, quadrilateral mound. One or two other separate parts of the ruin are seen a little to the eastward of this mound. Throughout are found stone structures and foundations similar to those in the Banco de las Casas and in other ruins of the Totoate group.

In the large court a number of interesting antiquities were found. Near the middle of the place, in the ground, lies a large, ancient, worked and slightly decorated slab of stone. As its surface is still fully exposed and on a level with the surrounding surface of the court, there is no doubt that the slab has been used or cared for by the Tepecanos in recent times. On approaching the stone I was warned by my Tepecano companion not to touch it, and especially not to remove it, for "anybody who should move it," he said, "would die," *i. è.*, would be punished by the gods.

Near this slab lay a smaller hewn slab, two others with petroglyphs, two damaged stone idols, and several pieces of similar figures. None of these objects seemed to have been used recently, and, judging by the weathering, all indicate ancient origin. Some parts

of the petroglyphs are now quite indistinct, but enough is left to show workmanship generally similar although slightly inferior to that at Totoate. On each slab is a distinct coil figure, such as, with more or less variation, is common at Totoate. The two idols, each almost a foot and a half in height, are each made of a single piece of hard stone and consists of a hewn pedestal, a neat, deep groove around above this, and a somewhat crude recumbent figure of a mountain lion on the top. The details of the figurines are better than their general form. The mouth is large, while somewhat conventionalized teeth are exposed all around. Unfortunately the head and the mouth of the figures are the parts most damaged. The fragments referred to are those of one or two other stone lions. It is of interest to note that on the Cerro de la Liona, situated a little south of Askeltan and affording an imposing view from the Cerro de Colotlan, the Tepecanos (judging from the descriptions given us) up to this day keep and venerate two apparently similar lion images of stone. We made a laborious excursion to obtain or at least to see these figures, but as my inquiries about them had alarmed the Tepecanos, we found, on reaching the summit of the Cerro de la Liona, only an empty court with traces where the idols had stood.

On the highest part of the eastern wall of the large court, in a circular depression of moderate size, is a small, crude Tepecano shrine in which these Indians still place their *chimáles* or prayer-sticks.

On the extensive, low, flat mound lay a number of nicely hewn stone slabs, varying in length up to three feet and of slightly less width. Their use is not apparent.

The Cerro de Colotlan ruin is the most southerly one of the Totoate group in the valley of the Rio de Bolaños. A little to the south is Askeltan, where there are some recent but apparently no ancient ruins. South of Askeltan, to Bolaños, the country is very rough, and I could obtain no information of any important ancient settlements within it; however, this region, as well as the valley south of Bolaños, seems well worthy of exploration. I have heard of ruins and even a graded pyramid near Tule, south and a little west of Askeltan; and the ruin known as Orcón, to

OBJECTS FROM THE TOTOATE GROUP OF RUINS, FROM THE TEPECANOS, AND FROM NEAR PUEBLO VIEJO

Figs. 1–6, Shell nose-ornaments from the Totoate ruins; Fig. 7, A string of wampum from the Tepecanos; Fig. 8, A wooden figure, used by the Tepecanos in "sorcery;" Figs 9–12, Lithomage fetishes, obtained from the Tepecanos; Fig. 13, Piec of a human skull from an ancient burial near Pueblo Viejo, southern Zacatecas, showing a double, artificial, probably post-mortem perforation

the southeast of Askeltan, is less than a day's travel from the latter pueblo.

The usual lack of means and time, my unfitness for this class of work, and the existing Mexican laws — under which there is no restraint to destruction, but a stern prohibition against taking anything away, even though purely for the benefit of science — all obliged me to make but flying visits where days and weeks of arduous labor should profitably be spent. Consequently, I am able to give only brief notes instead of such an exhaustive account as would, owing to the richness of the field, be of considerable value to Mexican archeology.

Yet even from the little I was able to do it is plain that the region through which flows the Rio de Bolaños, between the towns of Mezquitic and Bolaños and very probably farther southward, was in some forgotten, though probably not very ancient time, the center of a considerable population ; and the remnants of the works of this people, and especially the objects recovered, speak in many ways of a high degree of culture peculiarly its own. If there were any subsequent "*barbaros*" here, such as the Spaniards described, they left no visible traces. I hope to be able to throw more light on the people when my physical studies are completed, as well as by the detailed description of the specimens to be published later ; but it may be stated here that my further researches tend to identify the Totoate group of people with that great population which occupied, up to the Spanish conquest, the whole of northern Jalisco and southern Zacatecas, of which the great fortress of La Quemada was once the northernmost bulwark, facing the country from which descended the waves of Tepehuane and possibly other invasions.

I wish here to acknowledge the valuable services rendered me, in connection with all my work in this region, by Don Cruz Vazquez del Mercado and by Señores Vicente Medrano and Genaro Santibañez, of Mezquitic, Jalisco.

THE TEPECANOS

Previous Knowledge of the Tribe.—The Tepecano Indians (plate XLII), the remnant of whom lives in northern Jalisco, is one of the least

known native tribes of Mexico, whether considered historically or in the light of present knowledge.[1] The present causes of this lack of knowledge are the smallness of the tribe, the distance of the region occupied by it from any considerable white settlement, and the very rough character of the country and its approaches. In addition to this the Tepecanos are feared by their superstitious white neighbors, partly on account of a supposed ferocity and partly for their "witchcraft," which hinders free intercourse and prevents the acquisition of much information concerning them. Even from their nearest neighbors one learns more imaginary tales and reports about the tribe than actual information.

Historical references to the Tepecanos are very meager. The entire region from the river Tololotlan (Rio Grande) in the south to the town of Jerez in the north, a territory which in all probability embraced the early home of the Tepecanos, was included in what is known as the "conquest of New Galicia." The initial reduction of this province to Spanish power was accomplished in 1530 by Oñate and Chirinos, two of the captains of Nuño de Guzman. The indefinite records of this conquest, which are particularly poor in allusions to distinct peoples, contain no direct reference to the Tepecanos or to their country.

When the tribe of Tepecanos is mentioned by the earlier writers[2] it is considered as a branch of the "Chichimecan" family. Thus the only reference by Bancroft to this people is found among his notes on the "Chichimecos." A direct reference to the tribe is found in Orozco y Berra.[3] According to this author (p. 279), "The Franciscan friars assure us in their narrations that the monasteries which they founded at Colotlan, Nostic, and Chimaltitlan were situated in the regions belonging to the family of Teules-Chichimecos, who used a special language called *Tepecano*." And again (pp. 284–285): "But the same Teules-Chichimecos were subdivided into fractions, with particular idioms. The first family were

[1] The name is probably derived from the Nahua, in which language there are several terms from which such a derivation would be possible, as *tepetl*, 'hill or mountain'; *aco*, 'above,' on the top of'; *iacath*, 'point'; and there may be others. The Tepecanos call themselves also Hu-mā-kam or Hu-māt-kam, the meaning of which is close to 'the ones,' 'the people.'

[2] *Native Races of the Pacific States*, vol. I, pp. 617–644; direct reference, p. 628. See also vol. V, p. 347 et seq; reference to Herrera.

[3] *Geografía de las Lenguas*, 1864, pp. 279, 284–285.

GROUP OF TEPECANO MEN AT ASKELTAN

the *Cazcanes*, who occupied the region above (or from) the Rio Grande, and their neighbors were the Tecuexes and the Tepecanos."[1]

Orozco y Berra, usually so well informed, considered the Tepecano language to be extinct; but on his map he allots to the tribe an extensive territory, much larger than it occupies today or has occupied within the memory of its oldest men.

In 1826 Capt. G. T. Lyon crossed from Zacatecas to Bolaños and gave an account of his journey[2] without referring to the Tepecanos.

Of modern students of Mexican ethnology or archeology only Lumholtz has approached the Tepecanos; he came within a day's journey of Askeltan, met a few of the Indians, and collected a few words of their language. Dr Nicolas León, of the City of Mexico, published in 1902, through my incentive, a brief vocabulary of the Tepecano language, obtained through a padre from one of the nearby Mexican settlements. But the tribe, as well as the whole valley of the Rio de Bolaños, is, with the exception of the work here referred to, a virgin field for anthropology.

Present Location. — Today the Tepecanos are confined to the pueblo of Askeltan[3] and to not exceeding one hundred and fifty square miles of the valley of the Rio de Bolaños and the adjacent mountains. The nearest white or other Indian settlements, of any moment, to the Tepecano country are Nostic on the north, Sta Catarina and San Sebastian (Huichol) on the west, Huilacaltitlan (few Tepecanos) and especially Bolaños on the south, Temastian (descendants of introduced Tlaxcaltecs), and, farther on, Totatiche on the southeast to east.

Dwellings. — The pueblo of Askeltan consists of about forty dwellings, some of which are clustered on a low, rather unattractive hill or point, two-thirds of which are surrounded by the river, while others are scattered along the river itself. The village contains a

[1] "Mas los mismos teules chichimecos se subdividian en fracciones, con idiomas particulares. La primera familia que se presenta es la de los *cazcanes*, occupada el terreno desde el Rio Grande confinando con los tecuexes y los tepecanos."

[2] Lyon, *Journal*, London, 1828.

[3] Nahua *azcatl*, 'ants'; *tlan*, 'near,' 'near-by,' 'place of,' containing many. The name appears as Azcatlan in the text and on the map of Jalisco by A. Garcia Cubas in his *Atlas Metodico para la enseñada de la geografia de la Republica Mexicana*, Mexico, 1874.

small, old, Spanish-built church, and in general has a sort of semi-civilized appearance; this was further enhanced during the latter part of 1902 by the Tepecanos permitting a Mexican trader to settle in their pueblo for the first time in its history.

The dwellings of the Indians, where not modified by Spanish usages, consist of one or two rather small, low structures, built from irregular, unworked stones, with or without mortar. Occasionally there is in addition a more or less open shed built from boughs. The roofs of the houses are gabled or ∧-shaped, as are those of all the more primitive Indian dwellings in Jalisco, Tepic, and Zacatecas. The houses consist of a framework of native bamboo covered with *zacate*, or grass. A small separate group of such structures is usually surrounded by a rude stone enclosure. These dwellings are generally quadrangular, and the ruins of some of them are quite indistinguishable from the ancient ruins in that region. In the vicinity of the church are a few houses of more modern construction.

Dress. — All the male Tepecanos dress in a loose, collarless blouse shirt made of the cheap, unbleached but durable Mexican muslin; and in loose pantaloons of the same material, reaching below the calves, but often worn rolled up much higher. The head is protected by a home-made straw hat, somewhat of the shape of the ordinary Mexican sombrero, but smaller; on the feet the men wear simple rawhide sandals. A few of the men have in addition nice home-spun belts or pouches. The women wear a rather short muslin shirt, and a muslin or calico skirt, but seldom (except when visiting or traveling) any head-covering and apparently never any sandals. The little children run about nude or in a long shirt; older children dress like the parents.

The hair of the men is worn trimmed from three to six inches in length, while the women wear their hair in braids down the back.

There is no tattooing, and ordinarily, at least, no painting. Ornaments are now almost wholly restricted to women and girls, and consist of cheap rings, earrings, and beads.

Population. — The Tepecanos in the Bolaños valley estimate their entire number to exceed three hundred. Askeltan, which is their headquarters, could hardly accommodate more than about one

hundred and fifty inhabitants. A small Tepecano community some years ago emigrated from this neighborhood and now live near the Rio Santiago (Rio Grande).

Occupation; Food. — The tribe subsists almost entirely by agriculture and on the native fruits, such as the pitaya, tuña, vamuchile, and others. They cultivate maize (which is consumed mainly in the form of tortillas, but is also cooked whole), some beans, calabashes, and watermelons. For the watermelon they show a fondness equal to that of most Indians, and, it may be added, an equal disregard for its ripeness before eating. Some of the cactus fruits are dried in the sun on stones and preserved in corn-husks.

The Tepecanos raise some sheep, goats, and cattle, and keep chickens; they also hunt and fish a little. A few of the men occasionally conduct a little trade or engage in work for others. There are no artisans.

Ancient Money. — In 1898 I accidentally came across and finally obtained a small string of ancient shell beads, or wampum (plate XLI, 7), which the owner declared had still a definite exchange value, although they were used very rarely on account of their scarcity.

Organization. — The Tepecanos are practically independent. They elect from their midst a "gobernador" and an "alcalde," who are nominally subject to the Mexican authorities, but they virtually do as they please. There are some indications of a more primitive, probably clanship, organization.

There is no established school, no education; but several of the Tepecanos have learned in the neighboring pueblos more or less of reading and writing.

Religion. — Occasionally a Catholic priest comes to hold a brief service in the village church and to baptize or to marry those who so desire. The Indians have apparently assimilated some of these usages into their own religion, somewhat in the manner that they have adopted some Spanish terms into their language; and so long as the visitor keeps within certain bounds he has no difficulty. After the padre has departed the Tepecanos resort very largely again to their primitive deities and fetishes, which are represented by objects of stone or of other material and which are kept carefully

hidden in their homes or in caves and sacred spots in the mountains. I have thoroughly reliable information of two quite large crouching lions of stone, with wide mouths showing teeth ;[1] a stone cat- or leopard-like figure ; and a stone snake, decorated with *chaquira* (beads). All these figures and two chaquira-decorated skulls are kept somewhere on or near the Cerro de la Liona (Lion mountain), a little south of Askeltan, and several times each year are brought to an artificial *patio* (court) on the summit of the high mountain and there used in certain dances or ceremonies. It is probable that these figures are ancient. I myself have obtained from the Tepecanos two probably ancient and one modern, small, lithomage figures, one representing the sun, one a chicken fetish, and the third a god of war ; also a small stone disk with a hole in the center and radiating lines on the surface, probably representing the sun. (See plate XLI, 9–12.) The esteem with which the Indians regard all the old objects found in the ruins, and even the ruins themselves, is remarkable.

Twice every year, in the latter half of May and in September, the Tepecanos give *quentas* to the "great god" and other deities, the sun probably being foremost among them. These offerings consist of several kinds of sticks, to which are attached loose cotton, cotton-yarn "badges," feathers or beads, etc., or most often several of these objects together. The finished sticks are known as *chi-má-les*, or *ki-vá-res*. The latter term, I was told, is the proper Tepecano one, but the former is heard much more often. (Plate XLIII.)

There are two principal varieties of *chimáles*, namely, those with and those without the "badges." The differences in the two classes, as well as the many individual modifications, are, so far as my informant could tell, more of an esthetic than of a symbolic nature.

Two kinds of sticks are used — one thin, looking like a split bamboo, from four to ten inches long ; the other of light, white, native wood, much more common, is cylindrical, about three-quarters of an inch thick and from nine to fourteen inches in length, pointed at one end and blunt at the other.

[1] From the latest description obtained, these figures must be similar to those of which I found the remnants in the ruins on the Cerro de Colotlan, a few miles north or Askeltan, above described.

TEPECANO CHIMÁLES

The cotton used is a native variety and is cultivated by the Tepecanos for ceremonial uses only. It is used loose and made up into a moderately thin yarn. The loose cotton is wrapped about the *chimále* stick, or about the ends of the ribs of the badges, or hung on the stick in tufts or in the form of pendants. It represents clouds and is used particularly on the May *chimáles* as a prayer offering for "good" clouds and water.

The badges vary in size, some being over five inches in diameter. They are generally plain white, but sometimes they are colored in two tints, pale blue and red being mostly employed. The colored and white yarn, where the two are employed, alternate in bands, when there are no other figures. In shape most of the badges are hexagonal; others are diamond-shaped, and in one instance I found a cylindrical one. Although I questioned the Tepecanos on this point a number of times (and I had the same experience among the Huichols), I was unable to learn that these badges had any significance other than that they are "nice" and "agreeable" to the deities.

The feathers are mostly, although not exclusively, those of a species of hawk; they may be used singly or in bunches, fastened to the top of a stick and pointing upward, or hanging as pendants. The beads fastened to the *chimáles* represent money and form a figurative tribute to the deity. The most valued beads are those of shell, found in the old ruins, but glass beads also are used. Occasionally a diminutive bow and arrows are attached to the *chimále* as pendants.[1]

The Tepecanos have several definite spots where, from season to season, they deposit their *chimáles* by sticking the sharp edges into the ground. One of these shrines, to which an Indian led me and whence came the *chimáles* here illustrated (plate XLIII) as well as a

[1] The Tepecano *chimáles* differ from those of the nearby Huichols in a number of particulars. They are mostly of larger size; the thick stick is not used by the Huichols; the use of cotton and especially of cotton-yarn badges is almost restricted to the Tepecanos; the shape of the badges among the Tepecanos is much more frequently hexagonal than among the Huichols, who generally make the diamond-shaped ones; the Huichol badges are rarely if ever plain white, those of the Tepecanos quite often; the beads are much more common in Tepecano badges; and, finally, among the Huichols the use of the badges is much more extended than it is among the Tepecanos.

number of others in the American Museum, is a small, artificial structure of stone, partly covered but open eastward, constructed on the top of the main portion of the wall of the large *patio* in the ruin of the Cerro de Colotlan, a few miles north of Askeltan. It seems that each such depository belongs to a certain group of individuals. Here the men come after the middle of each May and deposit their *chimáles*, each man his own and separately, with prayers for abundant water (on which their crops depend), but only "pure" water, and for freedom from tempests, disease, and other malevolent things. The cotton and badges and pendants are conceived as representatives or messengers of this prayer; the feathers symbolize the desired swift flight of the prayer, while the beads are an expression of a consciousness of indebtedness and a figurative tribute. This much could I gather from the discourses of my informant. During September (any part of the month, the end of the rainy season) and before the harvest *fiesta*, new *chimáles* are made, and each individual, again the men only, passes the prepared sticks in a certain way around the head and body for "purification," then gives thanks to the deities and deposits his *chimále*. At times the *chimále* is used for supplications other than those here mentioned, and even in sorcery. Gourds, to which beads and cotton are pasted, are also deposited as offerings at the same places as the *chimáles*.

Sorcery. — The Mexican neighbors of the Tepecanos greatly fear the latter on account of their supposed powers in sorcery. On one occasion I met two individuals each of whom knew of some "idols" of the tribe, but both refused all offers to lead me to the locality for fear the Tepecanos would revenge themselves by causing the right arm of the informant to wither. Eventually, on my last expedition, Don Nicolas, an exceptionally honest and intelligent ranchman who knows the Tepecanos better than any of their other neighbors (a part of his ranch being situated very near Askeltan), brought to me a wooden figure (plate XLI, 8) found in a cave where it had been deposited by one of the Indian sorcerers. This figure, I was assured, was a faithful representation of a certain Mexican who, some time before, did some injustice to the Tepecanos. One of the sorcerers of the tribe made the figure, affixed it to a plumed stick

or *chimále*, and deposited it in the cave from which it was later taken. The Mexican was soon afterward taken sick; but another Tepecano told of the figure, and as soon as this had been torn from the stick and removed from the cave the man rapidly recovered.

The harm-belief need not of course be considered; but what is of particular interest is the fact (of which, after all I heard on the subject and with the wooden image in my hand, there can not be much doubt) that the Tepecanos actually practise some "witchcraft" ceremony. This is probably a form of prayer which, like every other more important prayer, is represented by a prayer-stick and other object and deposited in one of the sacred shrines.

Traditions.— Among the Tepecanos there is one old man, highly regarded by all, for whom, on account of his wisdom and general behavior, I could think of no more fitting term than "Nestor"; and, curiously enough, he has been known to the others, ever since my first visit, as Nestor Aguilar. (He is the oldest man in the group of Tepecanos in plate XLII.) According to this sage, — and he talked in the assembly and with the expressed approval of a number of the other men, — the Tepecanos came a long time ago "from the north, from a *Rio Colorado*,[1] and were of the same people as the *barbaros* there. Those of Nostic were originally Tepecanos, but later became mixed with other people and talked their 'lengua Mexicana.'[2] The Tepecanos extended to the Borego and Mesitas [both now apparently ancient ruins]. The Borego settlement was very old. Askeltan, Temastian, Acapulco, Huila (Huilacatlan), Santa Catarina, and Nostic were once occupied by branches of the same nation, who were originally a part of the *Mecos*.[3] The *bar-*

[1] As I found later there is a river of this name near the northwestern boundary of Durango and Chihuahua. In a part of its valley lived (and a few remnants still live) the northern Tepehuanes.

[2] *Lengua Mexicana* among the natives invariably means the Nahua or "Aztec" language; the Spanish is known only as the "Castellano." On my last expedition to the region I found two old men, apparently pure-blood survivors of the early Indian inhabitants of the country, one in Nostic and one in Huejucar (a day's journey northeastward), both of whom informed me that their forefathers spoke the "Mexicano." I should add that all the native names in this section are Nahuan.

[3] This was mentioned by Nestor in 1898. In May, 1902, while revisiting Santa Catarina, which, so far as our knowledge goes, was a pure Huichol pueblo, I came across a number of old petroglyphs, such as are found in the ruins a little north of Askel-

baros made war on the Tepecanos, but were repulsed. Then those of the Borego warred with those of Askeltan. It is long since this war took place, but it was after the white men came. The cause of it was a miraculous image of San Lorenzo which both villages claimed. Askeltan was then for a time called San Lorenzo. The pueblo received the name of *Askeltan*, from *askeles*, 'ants,' on account of the many people who lived there — as many as ants. The Tepecanos were themselves once *barbaros* after coming from the north."

A good deal more is known by the old man and by other Tepecanos, but it is rather dangerous ground to tread upon and should be left to students better qualified for such a line of investigation.

Social Customs. — No marriage is allowed until after puberty. The husband not infrequently takes two wives, but a woman has never two husbands. There is a little marital infelicity and some irregular prostitution.

The Tepecanos denied the occurrence of suicide in their tribe. They hurt or even kill each other occasionally, but only when made drunk by *sotol* or *tequila*. Transgressions are usually of a minor character and the punishment is either incarceration or lashing. A murderer, if caught, is delivered to the Mexican authorities.

In the last century, during periods of disturbance, several of the men became highwaymen and were killed by the Mexicans.

The dead were formerly buried in caves, but now many remains are interred in an old as well as in a new cemetery at Askeltan.

Intellectual Qualities. — After one has gained the confidence of the Tepecanos and they recognize in him a friend, and particularly one who does not deceive them, they become pleasant, display keen intelligence, and even become close companions; under these conditions they are in every way preferable to the ordinary Mexicans. But to reach such a stage of acquaintance and to retain the confidence of the Tepecano (owing, no doubt, to the usual experience of the Indians with whites) is quite a difficult matter, as may be seen from the following:

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tan, for which the Huichols could offer no explanation except that they were made by "other people." The term *mecos* is well known to the Tepecanos and to other natives in that part of Jalisco and in southern Zacatecas.

I made, in all, three brief visits to the Tepecanos, one in 1898 and two in 1902; and as every one warned me of the suspicious nature of the people, I chose but a single guide and companion, Sr Cruz Velasquez.

On reaching Askeltan, in the first week of May, 1898, we found the town almost deserted, most of the inhabitants having gone to the sierra to pick the ripening pitayas. We saw a few women from afar, but, on perceiving us, these immediately sought seclusion, so that aside from a female patient to whom I was brought later, I did not see on this first visit, which occupied two days, a single woman make her appearance. The few male inhabitants, whom we found after some search, received us with much reserve and apparent distrust of our intentions, which we did not succeed in overcoming for many hours. We were conducted to the *gobernador*, or head of the village, who, after receiving some gifts, gave us one of his huts for shelter.

As an illustration of the distrust which the Indians felt toward us, I may mention that for more than half a day we were unable to buy, in the entire village, even with the aid of our host, a single goat, sheep, chicken, or egg, although there was no scarcity of such things in the settlement, and indeed we were thus restricted in our purchases of the necessaries of life even after promising to make a general feast with the things bought. Gradually, however, the distrust gave way to kinder feelings. The people learned that I was a physician, and some called me to see the wife of one of the men who was very ill with malaria. Later the husband of the patient brought us as a gift a gourd full of fine tuñas (cactus fruit), and all became more friendly. Finally, when evening came, the house and the yard were filled with visitors, and the latter part of the evening and the following day were spent in complete confidence with all those who were in the village — the women, however, still remained in hiding. The Indians, some of whom were brought from the nearer mountains by their friends, surrounded us at all hours, and I was able to measure them and to make inquiries at pleasure. They even promised me two skulls which they kept in the village for certain of their ceremonies, but during the night these were spirited away to the mountains.

My second visit, in the spring of 1902, was very pleasant and profitable. I was enabled to record more physical data and also to make photographs; but the women, although they did not run away nor hide, still remained sufficiently distrustful to prevent me from measuring or photographing them. On my third visit (toward the close of 1902) the mere repetition of my visits and some photographs of individuals of the tribe which I brought with me, aroused new suspicions; all of which shows the care necessary in dealing with such people and indirectly reflects anything but credit on their past relations with the whites.

Medical and Physiological. — Information on these subjects, except where they bore on certain ceremonies, was given by the Tepecanos without hesitation.

The tribe, according to the information obtained, increases but little, if any, on account of the high death-rate. The most frequent causes of death among the adults are "fever" (in all probability typhoid), calentura, dysentery, and "a chest disease of short duration accompanied with pain and fever" (probably pneumonia). Calentura is quite prevalent.[1] The mortality of children is large, and is due chiefly to intestinal disorders, often caused by eating unripe melons and other fruits. Calentura is also frequently fatal among children.

Smallpox has appeared occasionally and its ravages caused numerous deaths.

A certain percentage of women die as a result of accident or from disease while pregnant, or at or shortly after childbirth.

The most common minor affections among the Tepecanos are pains in the joints (rheumatism?), headaches, some vertigo (the latter two mainly the effect of drinking to excess, which is not frequent, or of calentura), and conjunctivitis. Tumors occur occa-

[1] Calentura is a form of malaria, usually with frequent attacks. The disease is common among other Mexican tribes and attacks also the whites. It is usually a chronic disease, against which the Indians employ the *palo amargo* (native quinia) and other herbs, but not always with success. The patients become very debilitated and are obliged to keep to bed. Anæmia and emaciation follow, and may result in death. In most cases, however, restoration to health, after the sixth or eighth week of the malady I was told, slowly takes place. The disease attacks people of all ages and may recur in the same patient.

sionally. Insanity is very rare and is believed by the natives to be incurable.

The materia medica of the Tepecanos consists of many herbs, and, when these fail, of certain ceremonies. The herbs most commonly used are *palo amargo* (native cinchona), *herba de San Antonio*, and oak-leaves, for calentura; *palo mulato*, mainly for pains; *hi-ku-li* (obtained from the Huichols), *vervena*, *rosa de castilla*, the root of *ko-ho-te*, the seed of *ci-ci-va*, etc.

There is no higher degree of surgery, but the Tepecanos can well take care of broken limbs.

If a patient does not improve, the medicine-man is called. When he comes the patient lies down; the medicine-man prays and talks to the winds and spirits; then he lights a cigarette, draws in the smoke, and applies his mouth to the painful part of the body, which he bites a little or sucks, then puffs the smoke away from the patient, and spits into his own hands. With the saliva comes usually some small object,— a cactus spine, a little stone, or the like,— which the medicine-man either breaks up in his palm or throws into the fire. He then throws away the saliva. Occasionally the medicine-man gives also some remedy internally; but his prayers and touches, especially with the fingers moistened with saliva, and the exercises of his magic power are the essentials.

Conception generally follows very soon after marriage. Most women have four to six children, but there are some who have given birth to ten or even twelve. Only a few women are naturally sterile; others, I was assured, induce artificial sterility by means of herbs. Artificial abortion, also by means of herbs, I was told is not very rare.

The period of gestation lasts, according to the Tepecanos, nine months with a boy, but only seven or eight months with a girl. The mother has no means of guessing the sex of the child before parturition. The period of gestation is reckoned from the last menstruation. There are women who give birth to a child every year, and there are many who become pregnant before the last child is weaned.

Infants are suckled generally up to two years of age, though in not a few instances considerably later; but in addition they partake

also of all the kinds of food which the mother eats as soon as they can masticate a little. As among all Indians, the health of the child is often sacrificed through the desire of fully satisfying its appetite, and whatever the degree of medical skill in the tribe, there is, inexplicably, no knowledge or practice of prevention.

Children walk when about one year of age; they do not begin to talk before eighteen months or two years. The Indian mother does not stimulate the talking of her child as the white mother does. Before walking the Tepecano children crawl like white children, or even run a little on all fours.[1] The first dentition occurs most frequently in the latter part of the first year, in a minority of cases at about six months.

The occasional mother who "has no milk" nourishes her infant on the milk of goats or cows.

Parturition is generally accomplished with the aid of one or more related or friendly older women. There are no professional midwives, and the woman in childbirth is not secluded from her family or friends.

The average labor occupies about twelve hours. The woman is usually delivered squatting on her knees and toes, or on knees and toes and hands, with the lower limbs separated. In difficult labor the husband or brother will encircle her abdomen from behind with his arms and try to expel the child by pressure, which is continued without intermission as long as the man or the woman can stand it. If this heroic treatment does not accomplish the purpose, the medicine-man is called, and he proceeds with the woman much as with any other patient, but gives her at the same time a decoction of *herba buena* or *rosa de castilla*.

The new-born begins to suckle usually within two hours after birth. The infant is washed at once with luke-warm water, but the mother is not thoroughly cleansed until after four days. Women often have "fever" after confinement, which sometimes results in death. The abdomen of the mother is bandaged with the ordinary man's *faja*.[2] After confinement the woman is urged to remain abed

[1] I have seen this on several occasions among the Mexican Indians as well as among the Indians of southern United States.

[2] A woolen belt, ordinarily two or three inches in width and from two to four yards long.

as long as possible, and she generally stays indoors eight to fifteen or even thirty days.

Meal times and food are not so regular as among the whites; this, however, is the rule among all Indians. Intoxicating drinks, as with other Indians, have a rapid and, in the beginning, generally exhilarating effect. Tobacco is used very moderately. As all Indians, the Tepecanos are good travelers. In pacing, two steps (from one mark of one foot tothe next mark of the same) are counted as one. Both the men and the women are good although not steady workers.

Physical Characteristics. — However interesting the Tepecanos may be ethnologically, they are even more so from the point of view of physical anthropology. They are the shortest in stature and the most brachycephalic of all the Mexican tribes north of latitude 21°. They show quite close physical relation with the Tepehuanes, Huichols, Coras, southern Jalisco (Tuxpan) Nahuas, and Opatas, but this relation does not amount to tribal identity. My investigations afford reason for the belief that all of these people, as well as those now wholly or nearly extinct throughout Jalisco, a large part of southern Zacatecas, much of Durango, at least parts of Sinaloa and Sonora, and many now scattered over even a much wider radius, descended from one physical *souche* or type; but this subject will be more appropriately treated in another place.

The physical appearance of the Tepecanos, aided by but not wholly due to their costume, is such that many of them can be quite easily distinguished from the Huichols; yet there are among the Huichols, as well as among the other tribes above mentioned, not a few individuals who, if met near Askeltan, would be taken for typical Tepecanos.

Almost all the Askeltan natives appear short and rather thickset. The color of the skin is generally a medium brown, not far from the ordinary mulatto tint, but with a slightly greater tinge of red than of yellow. The women are not lighter than the men, and some of them, as shown by their bare arms and the upper part of the chest, have the identical, fine, slightly reddish-brown common among pure blood Indians of the United States. The hair, as in other Indians, is of the same color as the black mane of a horse. The eyes are dark brown, hazy, conjuctivæ yellowish.

The heads of the Tepecanos are generally rather large, rounded, regular, and free from artificial or other deformity. The face is usually quite broad and seldom handsome, but it increases in interest or pleasantness with animation. The forehead is generally of good height and breadth, occasionally sloping backward in its upper half. The malar bones are large, but not excessive. In men the nose is quite short and broad, but not low or thick as in the negro; it is of moderate dimensions and of a nicer form in the women. The lower part of the face is generally strong. There is little, if any, facial but more of alveolar prognathism. The supraorbital ridges are well marked and in some individuals are large. The eyeslits are nearly as straight as in the whites to slightly oblique. The bridge of the nose is usually moderately convex; the point is generally blunt and thick, and frequently, especially in the older ones, overhangs somewhat the nasal septum and the borders of the nasal openings (pendant point); or the whole septum shows a descending inclination. The mouth is large. In the majority of cases the lips are slightly thicker than those of whites, but never like those of negroes. The chin is rather broad and of medium prominence, never receding. Both the upper lip and the chin in men are covered with straight, rare, rather coarse, black hair, from two to five centimeters in length. As among Indians generally, no beard grows on the sides of the cheeks. The teeth are well developed and regular. The ears are of medium size and well formed, but the lobules are in some cases attached. The body is generally regular and strong, the chest well developed and rather deep at the base. The hands and feet of the Tepecano men are well formed, somewhat short, not large. The toes gradually recede in size from the first. The legs are of almost the medium dimensions of those of whites, not so small as among other Indian tribes.

Without entering into further detail in this place, I append three brief tables which illustrate certain of the physical characters of the Tepecanos compared with those of several other tribes of northern Mexico. The relation of all these is obviously very close. The Tepehuanes as well as the Opatas show a larger proportion of mesocephaly, which is probably due to admixture with their neighbors, the meso- to dolicho-cephalic Tarahumares. It is

quite possible that the Tepecanos were originally but a part of the once great Tepehuane tribe and that their name is but a slight perversion of the term "Tepehuano."

Physical Characters of the Tepecanos Compared with Those of Other Tribes of Northern Mexico

STATURE

	TEPECANOS (25)	SOUTHERN TEPEHUANES (40)	HUICHOLS (30)	CORAS (53)	SO. JALISCO NAHUAS (50)	OPATAS, SONORA (31)
153–155	12.0%	%	3.3%	1.9%	%	%
155–160	**36.0**	17.5	16.7	13.2	12.0	**22.6**
160–165	**40.0**	**30.0**	**36.7**	**35.8**	**46.0**	**19.4**
165–170	12.0	**42.5**	**36.7**	**37.7**	**32.0**	**29.0**
170–175		5.0	6.7	11.3	6.0	16.1
175–180		2.5		1.9	2.0	16.1
180–185		2.5				

CEPHALIC INDEX, UNDEFORMED HEADS

	TEPECANOS (25)	SOUTHERN TEPEHUANES (40)	HUICHOLS (30)	CORAS (53)	SO. JALISCO NAHUAS (50)	OPATAS, SONORA (31)
Below 75.	%	2.5%	3.3%	2.0%	10.0%	6.4%
75–76			6.7	2.0		3.2
76–77		**22.5**	3.3	8.0	8.0	6.4
77–78	8.0	5.0	3.3	6.0	8.0	**19.3**
78–79		**20.0**	6.7	8.0	6.0	**10.0**
79–80	8.0	7.5	6.7	**14.0**	**14.0**	**13.0**
80–81	**12.0**	7.5	**13.3**	**14.0**	**14 0**	**13.0**
81–82	4.0	2.5	**13.3**	**16.0**	**10.0**	**10.0**
82–83	4.0	**12.5**	6.7	8.0	6.0	**13.0**
83–84	**28.0**	**10.0**	**10.0**	6.0	**14.0**	
84–85	**16.0**	**10.0**	**13.3**		4.0	6.4
85–86			3.3	2.0	4.0	
86–87	4.0		**10.0**	2.0	2.0	
87–88				4.0		
88–89	4.0					
89–90	4.0					

NASAL INDEX

TEPECANOS (27)	SOUTHERN TEPEHUANES	HUICHOLS	CORAS	SO. JALISCO NAHUAS	OPATAS, SONORA
Average 83.6	83.3	82.2	83.3	81.8	81.1

There remains the question whether the immediate ancestors of the Tepecanos dwelt at Totoate, Torreon, etc. This question physical anthropology can answer only so far as to assert that they are of the same type of people; but whether they are of the same tribe can be determined, if at all, only by archeologic and ethnologic research.

The Language of the Tepecanos

The majority of the people, particularly the women, know but little Spanish; among themselves they employ the Tepecano dialect. The language sounds more pleasant than do some other Indian languages. It is quite easy to follow and reproduce the sounds and to distinguish many of the words. There are no harsh constructions and no unpleasant or unusual inflections of the voice; the pronunciation, however, differs slightly with different persons. I append to these notes a brief vocabulary and some phrases and sentences collected by me during intervals in my somatological work; and I give also for comparison a few words obtained later among the southern Tepehuanes of the district of Santa Maria de Ocotan, Durango. The terms were obtained in both cases from a group of men, which is safer than similar information from any single individual; they were also repeated by me to the men and only when easily understood were allowed to stand.

There is no doubt that a good linguist, in a reasonable time and without much expense, could conduct among this people, as among several other remnants of north Mexican tribes, a work of much value.

Tepecano Vocabulary and Examples of Speech, with some Equivalents in the Southern Tepehuane Dialect[1]

Note. — In recording the Indian language, not being an expert linguist I found great difficulty in using the English alphabet, so finally em-

[1] The Southern Tepehuane equivalents follow the Tepecano words and are enclosed in parentheses.

ployed that of my native language, the Czech, in which I found very nearly all the sounds used by the Tepecanos, as well as by other Mexican tribes. Most of the sounds of the letters in this alphabet, as well as in those of the various Slavonic languages, are identical with the Spanish and Latin (continental) sounds, but there are a number of additional letters with sounds that represent exactly what is most difficult to represent with the English alphabet. In order to avoid all confusion I present herewith the exact and unvarying sound of every letter employed.

THE ALPHABET

a, as *a* in *marrow*.
ā, as *a* in *mar*, *garden*.
b, as in *ball*.
c, has the sound the nearest approach to which in English can be expressed by *ts* or *tz*; it is found pure in such Latin words as *tercius*; it is a clear elementary sound, not a combination.
č, has a softer, moister sound than *c*, and stands intermediate between this and *č*; it, as well as *š*, is common in other Indian languages, as the Hopi.
č, as *ch* in *cherry*.
d, as in *dull*, *dollar*.
ď, or soft *d*, has a sound the nearest approach to which in English is probably the combined sound of the *d* and *i* in some words with the combination of *di͡e*.
e, as in *bet*, *tempest*.
ē, as *ê* in *fête*.
f, as in *Faust*, *fish*.
g, as in *gall*, *get*.
h, as in *home*, *hot*.
ch, as in the German *brauchen*, *lachen*.
i, as in *lily*, *boil*.
ī, as *i* in *machine*.
j, as in the German language, as *Jesu*; it is used where in English *y* would be employed.
k, as in *kine*, *peak*.
l, as in *lion*, *tool*.
m, as in *mother*, *boom*.
n, as in *near*, *bean*.
ñ, has a nasal sound somewhat similar to *ng*, as in many Chinese words.
ň, as *gn* in the French *mignon*, or that of *ni* in *pinion*.
o, as in *mother*, or as *u* in *sun*.
ō, as in *strong*, or as *a* in *ball*.
p, as in *peak*, *heap*.
r, as in *rain*, *tear*.
ř, is a difficult, soft, vibrating sound, the nearest approach to which in English can be made by the combination *rz*; yet in the true *ř*, which is common to many Indian languages, no trace of *z* or *s* is audible.
s, as in *salt*, *last*.
š, as *sh* in *she*, *hush*.
t, as in *tear*, *meat*.
ť, is soft *t* corresponding to the soft *d*.
u, as *ou* in *Louis*.
ū, as *oo* in *tooth*.
v, as in *very*, *weave*.
w, as in English (from which it is adopted).
y, is closely related to *i*, but has a broader sound, as that of *y* in *Styria*.
ȳ, is a prolonged *y*.
z, as in *zenith*, *Zulu*.
ž, as in *azure*.

I. NOUNS.

Father, ta-ta (hin-čāt).
mother, na-na (hin-ñān).
brother, en-ha-dōn, ha-dūn (hin-čīš).
sister, en-ha-dōn, en-mow-da (hin-zi-kō).
brother of my father / *sister of my father* hād-ni-den tā-ta-pe.

son, a-li.
daughter, a-li.
children, mā-ma-li.
grandfather, bā-ba-li.
grandmother, kā-ha-li.
man, ti-ōt, ti-ōn.
woman, wo-ūf.
brother of my mother / *sister of my mother* hād-ni-den nā-na-pe.

Old man, ko-li-gi-ja.
old woman, o-ki-gi-ja.
priest [*padre*], om-ōg ["head"].
god [*one of the gods*], sī-do-kam.

a dead person, iš-mūg.
child, ār.
pretty girl, žap-māš.
another one [*person*], gu-maj.

Head, um-ōgh [initial *u* and terminal *gh* in all feeble].
neck, um-baik-tow.
chest, um-bās.
hand, um-nōb.
foot, um-tōn.
finger, um-dē-do [from Spanish].
fingernail, um-hōst.
hair, um-kūp.

beard, mustache, um-tum-wo.
eye, um-wuj.
ear, um-nā-nak.
nose, um-dāk.
lip, um-tun.
tooth, um-ta-tam.
tongue, um-nūn.
chin, um-kas.

Deer, el-suj-mar, ko-kōn. (so-ī-mā-k.)
dog, go-gōs.
bird, ču-vīt. (u-ē.)
sheep, to-tōk.

pig, ek-vi-mar.
quail, to-so-ru-i.
chicken, ta-vu-a.
goose, ha-a.
cat, mi-sō.

Day, ta-tāb, te-ši-mā-ši. (ta-nōk.)
night, to-ka, t'-ka', tē-wa-tok. (to-kāk.)
week, humat si-mān [probably from Spanish *semana*].

month, hu-mat mas-za. (ma-sān.)
year, hu-mat oj-da. (mā-km.)

Sun, to-nōr. (hin-ťe-hōg.)
moon, mas-za. (ma-sān.)
star, hōp-pa. (hu-wag.)

village, kī-da-or, kī-dagh-ra.
Askeltan, Kī-dagh-ra.[1]
hat, mō-bar.

[1] The Tepecanos themselves generally use the term *Kī-dagh-ra*, signifying "village."

earth, bī-t-d, oj-da-kam. (den-wēr.)
water, sūr-di, tsū-di, sū-di. hā-va [from Sp. *agua*?]. (sur-de-i.)
stone, ho-daj. (hor-da-ji.)
tree, ūš. (u-ūc.)
fire, taj.
road, voi [from Spanish *voy*, I go?].
arrow, u-u.
bow, gāt.
wood, ko-āg.
house, kī-ta-mi.
great house, gu-wa-āk.
roof, wa-āk, wa-āh.
room, bīd-wa-āk.
muslin pantaloons, hi-na-twāř-kar.
health, šav-hu-van.
sky, g-t-wañ-gi.
Inferno, ne-žiš-ko-ōk.
cold, iš-tu-čū-pi.
lightning, hp-tg-wa.
thunder, ne-ō-ki-him.
darkness, sa-sa-va-či.
sickness, kōg-da-ra.
malaria (*calentura*), iš-to-kōk-da.
the mountains, hok-km-dam.
maize, hūn.
tostilla, sā-mit.
a laborer, dād-ge.
a word, ni-jōk.

II. PRONOUNS.

I, a-ne, āl-ne, an-te, a-ni.
thou, ā-pe.
he, she, it, ap-te.
we, ā-tip, te-ti.
they [*male or female*], hu-ga.

III. ADJECTIVES AND NUMERALS.

Good, e-ši-ōb, a-me-ři-ōn.
better, e-me-řap-toj.
bad, e-a-nu-ōb, ja-map-toj [worse?]
small, liš-puk.
great, large, gū-eh.
stout, fat, sāv-lak.
thin, šī-gak-kam.
high, tōb.
sweet, eš-maj-ka-kam.
bitter, šī-wu-kam.
warm, niš-ho-ōk.
much, vi-ja.
many, muj [probably from the Spanish].

White, iš-tā-kam. (š-čo-a.)
black, eš-tō-kam. (štuk.)
yellow, e-šām-kam. (i-šū-vam.)
green, tyr-do-kam.
blue, eš-tyr-do-kam. (ču-ū-da.)
red, ež-wuk-kam. (ši-wuk.)

One, u-ma, hu-maj, hū-mat.[1] (ma^n [the terminal *n* but slightly audible].)
two, gōk. (gōk.)
three, vajk. (vajk.)
four, mā-ko, mā-ko-ba. (mā-ko.)
five, eš-to-mān. (ča-mam, šta-mam.)
six, šev-uma, šiv-hupnaj. (ši-hu-ma^n).

[1] Most of the Tepecanos know the numerals only up to six; only a few old men know them up to ten; numerals higher than ten could not be obtained at all.

seven, šil-gōk. (šiv-gōk.)
eight, ši-vajk. (šiv-bejk, šiv-vajk.)
nine, ši-māko. (šim-māko.)
ten, mā-huř. (mam-buš.)[1]

IV. MISCELLANEOUS PARTS OF SPEECH.

Today, u-wī-mo. (now-šīf.)
tomorrow, wu-ī-mo, as-ta-wī-mo [Spanish *hasta?*]. (wuj-mok.)
day after tomorrow, asta-ma-ši-je-va, dog-ma-ši-jeva.
yesterday, ta-kāb, ta-kāv. (ta-kāv.)
last year, hm-āk.
until / *up to* hau-a, maj-kā-va.
far, ko-ra. (mk.)
yes, a-ā-a. (hn-dō.)
no, ja-ni. (ča-m, čam-mō.)
what, a-ša-psu-po-haj-da.

V. VERBS.[2]

I go, an-ty-ki-hi, an-te-va-hi. (añ-va-hi.)
I am, āl-ne.
thou [*you*] *art*, āpe.
it is, u-iš, ňiš.
I say, au-te po-toj.
thou [*you*] *sayest*, a-ni po-toj.
he says, ap-te po-toj.
we [*nos todos*] *say*, wu-e-šir te-ti po-toj.
I shall say [*I shall tell to all*], wūš au-te po-toj mū-hā-der.
I said yesterday, ta-kāv au-te po-toj.
I return, an-ti-ba-nōr.
I have, a-ni vi-ja, a-ni ni-vi-ja.
he has [*or holds*], šiš-tōn.
I know, an-te-šmāt, a-ni-šmāt, a-niš-to-māt-ys.[3]
thou [*you*] *knowest*, a-ne-am-to-māt-ys, a-pe-miš-to-māt.
he [*the other one*] *knows*, g-ma-jiš-to-māt-ys.
we [*all*] *know*, wu-e-šir, to-mat-ys.
I want, a-ni, so-ši-mȳm, a-niš ho-chi, a-ni-žāk.
I cut, a-ni-hik-ta.
I eat, au-te-va-to-hōk.
I hold, šiš-to-nōm.

VI. COMPOSITION.[4]

One man, hu-maj ti-ōt.
two men, gōk te-ti-ōt.
many men, muy ga-te-ti-ōt.
many sons, muy a-la-li.
many women, muy wu-wo-ūf.
many children, muy a-ār.
two years, gōk oj-da.

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[1] Higher Tepehuane numerals are: 11, de-wan-ma^{n}; 12, de-man-gōk; 20, ma^{n}-ōp, ma^{n}-ōm; 40, gōk-om; 50, gōk-om-de-mān-buš; 60, vajk-om; 100, šta-mām-om.

[2] No infinitive was obtainable.

[3] The terminal *ys* is ordinarily quite mute, and a similar condition is observable in other terminals.

[4] These parts of speech do not seem to have quite such sharp, definite meanings as with us. Some of the versions are undoubtedly not quite literal; they are equivalents, modified by the Indian mode of thought and usages of expression.

Greeting on meeting, šav-hū-van [health]; en-gan-do šav-hū-van.
response to same, a-hwa-nā-pe, whopa-nā-pe.

greeting on parting, ki-nē-ki an-te-va-nor.
greeting for "good night," a-te-řihū-ro.

How far is it to Askeltan? Hō-šišmō-kor ki-dagh-ra?
It is not far, Ja-m-ko-ra.
It is very far, U-iž muy ko-ra.

Where are you going? Pā-pe-c-kihi?
I go to Askeltan, An-ty-ki-hi kidagh-ra.
I went yesterday, Ta-kāv-an-te-ki-hi.

When are you going? Huyř-kat apso-hy-mi-ja?
When will you return? Huyš-kat aps-ha-gu-šija?

Where are you going? Pā-pes-tewa-hi?
Where did you go? Pā-mo pe-c-ojma?

I shall come tomorrow, Wu-ȳ-mo ne-ha-g-ši-ja.
I shall go tomorrow, An-te-wa-hi as-ta wȳ-mo.
You travel very fast [*Andas muy apriesa*] } Pta-ki-ja m-šim-da.
You are a good traveler [*Es muy andador*] }
You returned promptly [*Pronto dios la vuelta*], P-je mš-mā-tat oj-ma.
I shall go to Mezquitic tomorrow, Wu-ȳ-mo ni-chȳ-mi-ja wī-hok-tam.
I go to the mountains, A-ni-wa-hi hok-kom-dām.
I return from the mountains, An-ti-ba-nōr hok-kom-dām-de.
Tomorrow I go to the sierra, Wu-ȳ-mo hok-kom-dām ho-ni-hin-da.
I went to the mountains yesterday, Ta-kāv-an-ti-hi-mok hok-kom-dām.
Two men go to the mountains, Gōk tōt am-hī-mi-ja hok-kom-dām.
Many men go to the sierra, Muy am-hī-mi-ja hok-kom-dām.

What news is there? Hās-to šiš-to mo-yn.

There is no news, Nada [Sp.] ni haš-to.

I shall tell tomorrow, after I have thought of it [given spontaneously: *Yo le dirē mañana, voy apensarme*], Wu-ȳ-mo eu-pou-vān em-tur-de ne-kau-te-me-mo.

All of you know except myself [given spontaneously: *Ustedes todos saben menor yo no se*], A-pe miš-to-māt a-nem-to-mā-tys.

I do not want any one [given spontaneously], Jam-ki-ja mem-ki-hōhi.
What is your name? [*Como te llames*], He-sap so-po-tōz?
Come to eat, Baj-to-hōk.

Bring a stone, Baj-ši-bu ho-daj.
Make fire, Ši-to-nād-taj.
It is cold, Niš-iš-chi-jōb.
He drinks water, Neš-iš-to-nōm tsūdi.
I live here, A-ne-kid or-ki-jo.

I am eating, An-te-wa to-hōk.
Give me, O-maj.
He has malaria, Šiš-tōn iš-to-hōk-da.
Juan has much money, Juan muy vi-ja vaj-no.
That man has much money, Muy vi-ja vaj-num ti-ōn.
Go take a bath, Maj-kvo-to-a-tē-po.
Give me a stone, O-maj ho-daj.
I want to marry, Niš-ta-hōn-tam.
Somebody is dying [*Se muere otro*], Te-a-po-mo gu-maj.
I want to sleep, Niš-iš-hō-šim kō-šam.
I want you much, A-ne-ni-šim hō-chi.
I am a laborer, A-neš-to dād-gi.
Shoot there, A-ni-to-mo-ja.

VII. SONGS.

A sacred song, of which the Tepecanos would not give a translation, follows:

Hauk ty-tā-vi ka-mi.
Či-hajn-dū-du ka-mi.
Hā-va gū-gr te-tu-wa-vo-ta i-po-oj-da-kam.

The following incantation is sung "*al sol y nube*" (to the sun and cloud) at the commencement of the rainy season. It is usually much longer than given here (with variations and repetitions it may last, I was told, upward of two hours), but the construction is similar throughout, the first verse being repeated with each successive stanza. Owing to their imperfect Spanish, the Tepecanos were not able to give me a literal translation of the song, but apparently it is mainly a rejoicing at the coming of the rains on which depends the whole sustenance of the people.

Hā-va-ū[1] tu-tā-vi ka-ma ši-hajn-dū
Ū te-a-ta wē-ve u-tu-tā-ve
Hā-va g-t-wañ-gi [the heavens] oj-da-kam [the earth].

Hā-va-ū tu-tā-vi ka-ma ši-hajn-dū
Hā-va um-ā-rañ-ghim
Hā-va te-vāg um-tū-tuñ-ghim.

Hā-va-ū tu-tā-vi ka-ma ši-hajn-dū
Hā-va t-wāg hp-tg-wa [the lightning].

[1] *Hā-va* may be an adaptation from the Spanish *agua*, although the present Tepecanos believe it to be a word of their own language.

Hā-va-ū tu-tā-vi ka-ma ši-hajn-dū
Hā-va vp-gū-ve.

Hā-va-ū tu-tā-vi ka-ma ši-hajn-dū
Hā-va ne-ō-ki-him [the thunder].

Hā-va-ū tu-tā-vi ka-ma ši-hajn-dū
Hā-va bi-wah wa-ū-ta.[1]

Another incantation of the Tepecanos, also sung before or at the beginning of the rainy season, and given to me by another man, is as follows:

Hā-va tā-ta hā-li ō-li
ka-ma ši-hajn-dū, dū-ka-ma.
Hā-va g-tu-wan-gi
u-tañ-a-vi, ojn-da-ka-ma.
Hā-va tu-va-gi u-tā
hā-vi o-in-da-ka-ma.

The idiom, as will easily be seen on comparison, although related particularly to the Tepehuane, and also to the Pima and the Nahua, presents numerous differences from each of the latter tongues. This fact would seem to indicate either an admixture of distinct languages or a long separation of people originally speaking the same dialect.

EXPLORATIONS IN OTHER PARTS OF NORTHERN JALISCO AND IN ZACATECAS

Tlaxcaltecos. — East of the Tepecanos are the rough mesas and barrancas of the district of Colotlan, and here in many spots are found traces of an ancient population. After almost a whole day of difficult journeying toward the east and slightly south from Askeltan one reaches a group of Indian pueblos known as Temastian, Azcapotzalco (about three miles east-southeast of Temastian), and Santa Rita (about seven miles nearly south of Azcapotzalco). One or two of these settlements are probably ancient, but as I learned from carefully preserved records, they were all peopled, in the early part of the eighteenth century, by Tlaxcaltecs, who were introduced by the Spaniards for defense against the "Chichimecos." Thus, in

[1] "The water will now come from the sky."

the three villages there are examples, persisting with their introduced population to this day, of the *pueblos fronterizos*, which played such an important part in the pacification of the country. Judging from their physical characteristics, the present inhabitants of the three villages are no longer pure Tlaxcaltecs, but the result of a union of these and some of the "Chichimecs." Nor do any of them now speak the old "Mexicano." There exist considerable friendship and even physical likeness between the natives of Temastian and the Tepecanos.

Ruin Orcón. — About six leagues southwest from Azcapotzalco, in a barranca, there is, according to the natives, a large ruined pueblo named Orcón, or Cerro de Orcón, similar in character to the ruins north of Askeltan, with petroglyphs, *piedras labradas*, etc. The inhabitants of Azcapotzalco, which is an old settlement, believe that Orcón was the original seat of those who founded their own pueblo.

Ruin Momax. — Seven miles east-southeast of Santa Rita is a comparatively large and now Mexicanized town called Atolinga; and four and a half leagues from here, in the broad valley that bears its name, lies the large old Mexican town of Tlaltenango. About five leagues north of the latter and nearly midway between it and Colotlan is an ancient ruin called Momax. The licenciate Romanez in Tlaltenango informed me that the ranchman on whose property the otherwise not pretentious ruin is situated, needing some stone, destroyed a mound and found in it many burned and also some unburned human bones, together with various art objects, among which was some good pottery. Sr Romanez preserved one of the skulls, which I was able to measure, and he also kept a few damaged pieces of the pottery, one of which I obtained for the American Museum. The pottery exhibits different forms, but has the same artistic paint-inlaid decoration as the best pottery from Totoate, and even somewhat similar figures.

Natives of the Valley of Tlaltenango. — At Tlaltenango, and especially throughout the valley south of it, the proportion of Indian blood increases, and there are ranches and even pueblos where not a few apparently pure-bloods can still be found. These natives are probably largely the descendants of introduced Tlaxcaltecs, for

their facial and body type approach closely that common in Tlaxcala and in the valley of Mexico. A large and almost wholly native pueblo, of known origin, called San Pedro, lies in one of the tributary valleys to the east of that of Tlaltenango, about half a day's journey from Tlaltenango itself. I shall later recur to this village.

Teul.[1]— A little less than a day's horseback journey south-southwest from Tlaltenango lies the famous ancient settlement, religious center, and fortress of Teul, once the most important seat of the "Teul-Chichimecs." Just north of Teul itself are several old native villages, the inhabitants of which show not a little mixture. What is known as Teul today is a fair-sized Mexican town at the foot of the ancient settlement, which was situated on a high, isolated hill, scalable only with difficulty, just south of the present Teul. The hill consists of a base of steep and in places vertical walls; a broad, inclining, circular bank of land, trending eastward, on which is found a spring and a cave-reservoir of water; and a large, conical elevation somewhat west of the middle. On the northern, eastern, and southern quarters of the belt-land are the remains of ancient Teul. These consist of mounds and large ruins with *patios*, as well as smaller ruins, all built of stone and in practically the same manner as the ruined structures of the Totoate group. The surface is everywhere overgrown and partly hidden by rank vegetation. The total area or mass of the ruin is not so great as one might expect from the notoriety of the place — it is smaller, for instance, than the ruins at the Banco de las Casas, south of Totoate — but there is no knowledge as to how much of Teul lay at the base of the hill, nor of how much has been obliterated by time and through the Mexicans. Enough remains, however, to deserve thorough exploration, for the largest mounds and structures have hardly yet been disturbed and appear to give promise of fruitful results to the archeologist.

The soil about the ruins is rich in fragments of mostly crude, but also some rather nicely painted or incised pottery, and in chips of obsidian and other stones. A quite extensive part of the belt is cultivated. Human bones are found occasionally, but thus far none has reached any museum. I saw dug from the bank a

[1] See Mota Padilla, *Historia de la Conquista*, p. 57.

mesocephalic cranium, rather small, and in general of strong texture.

Among the few specimens which I obtained at Teul are the head of a small stone idol with a flat face and a small axe with an animal head carved in profile on the butt. The latter corresponds exactly with the axes from the Totoate group, as well as with the two from La Quemada, recently made known by Batres,[1] that have human or animal designs on the blunt end.

Living Remnants of the "Teul-Chichimecs." — While at Teul I learned that two old villages of full-blood Indians were situated about six leagues west of Teul, and between the latter and the barranca of the Rio de Bolaños. These are San Lucas, or, as it is known to its inhabitants, Tepetitlan, and Tepisoac or Tepisoake. San Lucas, which lies about two leagues south of Tepetitlan, is probably the pueblo that Mota Padilla (page 58) speaks of as having been founded in 1530 by Oñate, and in all probability was peopled by some of the inhabitants of Teul after the reduction of the latter place. At all events there is a tradition among the natives of Tepetitlan that their ancestors inhabited the Teul district before the whites came, and I found nothing to controvert this belief. The introduced Tlaxcaltecs and their "*pueblos fronterizos*" were situated a day's journey to the north.

On reaching Tepetitlan, which lies in a pleasant and fertile depression in the highlands, I found it entirely deserted. It is a village of moderate size, with the houses mostly scattered. The dwellings, which are of stone, or of stone and adobe combined, are all quadrilateral, with gable-shaped *zacate* roofs — a type of structure common throughout the entire region. The absence of the inhabitants was partly due to the corn harvest, but mainly, as we found later, to the suspicion that I might be a government agent coming as the result of a recent revolutionary plot. Fortunately I had with me a man (the owner of the Teul hill) in whom the Indians had more confidence than they usually have in white men, so that eventually a few were induced to return, while others were sought and measured in the cornfields. I include in full the measurements of five full-grown men, from which it will

[1] *Visita a los monumentos arqueológicos de La Quemada.*

be seen that these Indians are of small stature, often with relatively broad head and face, and a quite broad and short nose, in all of which, as well as in general physical appearance, they closely approach the Tepecanos (plate XLIV, 1–3).

Measurements of Men at San Lucas (Tepetitlan)

Approximate age.	30	55	35	65	42
Height (cm.).	156.0	158.5	161.9	165.5	165.9
Head, diameter ant.-post. max.	17.0	18.3	18.7	18.35	19.5
Head, diameter lat. max.	14.6	14.6	15.1	15.2	15.2
Cephalic index.	85.9	79.8	80.75	82.83	78.0
Height of head from biauricular line.	13.1	12.8	13.5	12.8	13.55
Face, chin-nasion.	10.6	10.9	11.8	12.2	11.8
Face, chin-crinion.	17.3	17.5	18.8	17.1	17.0
Diam. bizygom-max.	14.0	14.25	13.4	13.6	14.5
Diam. frontal min.	9.9	10.2	10.1	10.1	10.7
Diam. bigonial.	9.8	10.4	10.1	10.1	11.0
Nose, height to nasion.	4.55	4.75	5.2	5.2	4.9
Nose, breadth max.	3.75	4.25	3.9	4.25	4.25
Nasal index.[1]	82.4	89.47	75.0	81.7	86.7
Mouth, breadth.	6.0	5.8	5.7	5.9	6.0
Hand, length.	16.8	18.2	17.3	18.1	17.8
Hand, breadth.	8.1	8.2	7.8	8.0	8.2
Foot, length max.	22.8	25.6	23.6	25.4	25.2
Foot, breadth max.	9.9	9.5	9.0	9.3	10.0

Tepisoake, having been reported to be also deserted, was not visited; but from what I could learn the two pueblos differ in nothing material. The only occupation of the natives of both is agriculture. All now speak Spanish, and even the old men could or would not inform me of any one who remembered any of the original language. The Indian name Tepetitlan is Nahua, as are practically all the native names in northern Jalisco and southern Zacatecas. Of *Tepisoake* I have not found the derivation.

Other Probable Remnants of the "Chichimecos." — In a shallow valley about five leagues northeast of Teul and a little more

[1] Average nasal index of Tepecanos = 83.6.

than that distance southeast of Tlaltenango, near the foot of the Cerro Chino, lie two larger and still almost wholly native pueblos, known as San Miguel and San Pedro. Both were among the settlements founded by Oñate in 1530.[1] San Pedro is the larger village, numbering over a hundred men.[2] The principal occupation of the inhabitants of both settlements is agriculture. The dwellings are similar to those at Tepetitlan; the mode of life of the people is the same throughout the region among both whites and Indians, and is as above described. The only language current today is the Spanish. Some admixture with the whites is apparent and very probably some with the Indians of Tlaltenango valley.

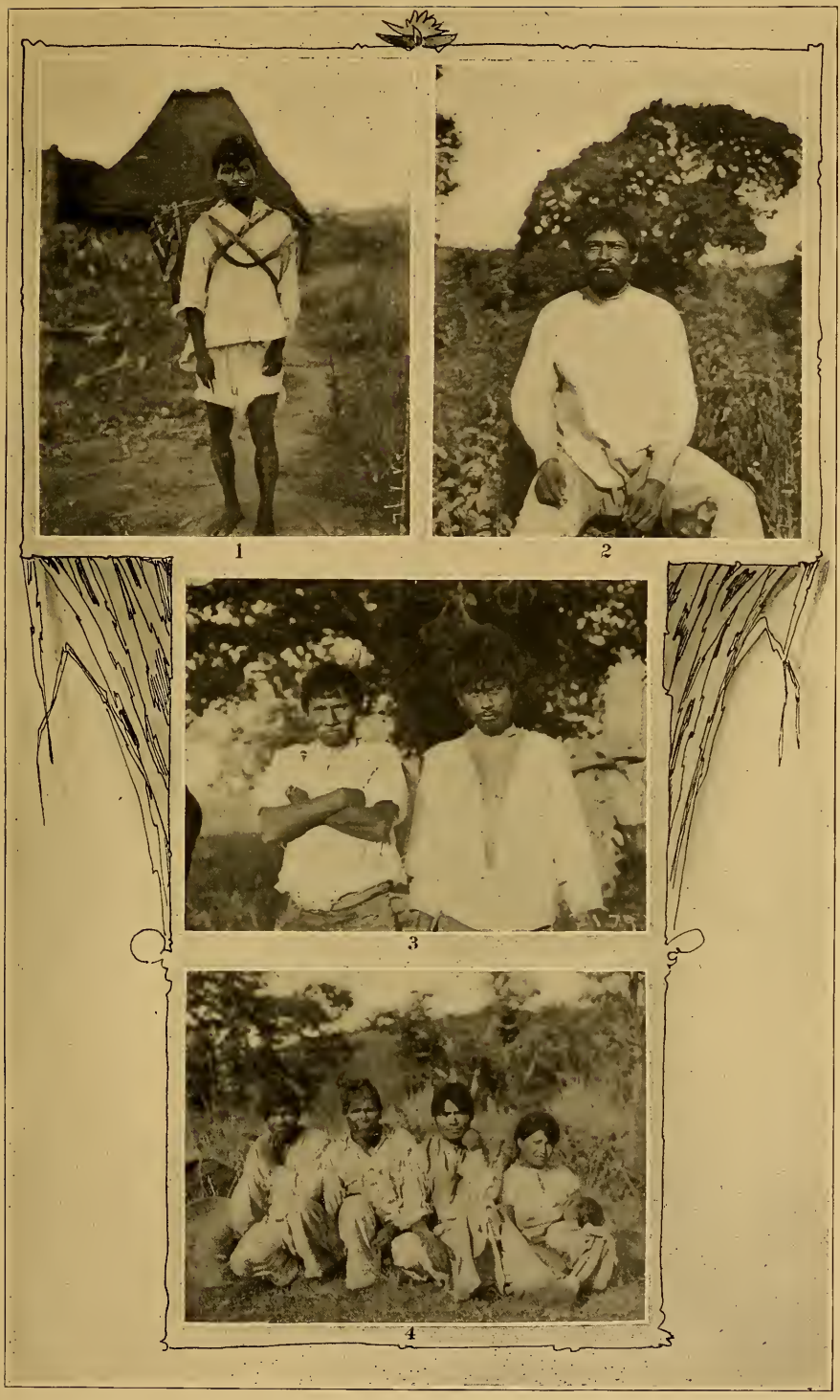
On account of the general disturbance caused by the suppressed revolution previously alluded to, and of the fear arising therefrom, my stay in the San Pedro district was brief. I was able to measure only four full-blood men. It would seem that the San Pedro natives in general are somewhat less brachycephalic than those of Tepetitlan; and both the San Pedro men and women, although the nose is also short and broad, appear generally to be of a somewhat more refined physical type. But there are some physiognomies (plate XLIV, 4) that are very much like those of the natives of Tepetitlan or those of the Tepecanos. The measurements of the four men are as follows:

Measurements of Men at San Pedro

Approximate age.	45	35	40	22
Height (cm.).	163.7	161.7	161.3	159.8
Head, diam. ant.-post. max.	19.0	17.9	18.2	18.3
Head, diam. lateral max.	15.1	14.0	14.6	14.8
Cephalic index	79.5	78.2	80.22	80.87
Height of head from biauricular line.	13.3	12.9	13.15	13.05
Face, height to nasion.	11.5	10.5	11.6	11.0
Face, height to crinion.	17.5	16.3	17.2	17.2
Face, diam. bizygom. max.	14.4	13.2	13.8	14.1
Face, diam. frontal minim.	10.4	9.4	10.2	9.6
Face, diam. bigonial.	10.4	10.0	9.8	10.4

[1] Mota Padilla, *Historia*, p. 58.

[2] The local custom of giving the population of a place is to give the number of male adults.



NATIVES OF TEPETITLAN AND SAN PEDRO

Figs. 1, 2, 3, Natives of Tepetitlan, District of Teul; Fig. 4, Natives of San Pedro, District of Tlaltenango.

Nose, height to nasion.	5.1	4.5	4.85	4.6
Nose, breadth.	4.35	4.25	4.15	3.85
Nasal index.	85.3	94.4	85.6	83.7
Mouth, breadth.	6.5	6.2	5.8	5.9

Cerro Chino and Neighborhood. — The high mountain known as Cerro Chino, which is on the road from Teul to Mixton, is a prominent landmark, being visible, except from the east, from almost every elevation from a little south of Jerez to below Teul. With Mixton it forms a part of the long and rather narrow ridge that separates the Tlaltenango from the Juchipila valley. About its base are often found stone implements, particularly arrow and spear points, as well as decorated clay whorls, potsherds, etc. The mountain itself and the level parts of the ridge seem to be devoid of extensive ruins, but I learned of the remnants of many stone *fincas* in a fold of the ridge, some distance to the eastward of Cerro Chino, probably in the slope of the Juchipila valley.

Mixton. — My next visit was to the famous Cerro de Mixton, half a day's journey to the northeast of Cerro Chino, the last stand of the united natives against the invading Spaniards in 1541. The mountain is easily accessible from the land side and is not imposing. It covers a part of the flat surface of the ridge, with a moderate conical elevation near the border, bounded on the west and south by a deep barranca, while on the east its usually steep, high walls face the Juchipila valley. So far as I was able to see or learn, there are no suggestions of the reported great conflict that took place here, but the area of the mountain is extensive and I was not able to stop long enough to explore it thoroughly. I returned from Mixton to the Cerro Chino, and, traversing a considerable part of the ridge southward, descended to the Juchipila valley.

Ancient Remains in the Juchipila Valley. — The practically unexplored district south of Juchipila, or Xuchipila, abounds with evidences of an ancient population. About three miles south of Juchipila is an elevation that projects like a wedge northward into the valley. The extremity of this elevation consists of two hills, the more northerly of which bears the peculiar name of Cerro de Chihuahua, while the other is designated Cerro de las Ventanas. Both of these hills, and especially the saddle-like concavity between

them, contain many remnants of ancient habitations. On the north-eastern face of the Cerro de las Ventanas, for about one-third its height from the top, is an almost perpendicular wall, in a large niche at the base of which is found the most interesting part of the ruins, namely, a regular and well-preserved cliff-house. In all probability this is the most southerly cliff-house on the continent. It resembles considerably some of the cliff-houses I have seen in the cañons of Utah, New Mexico, and Arizona, but it has the peculiarity of being painted on the outside. The structure measures a little more than forty feet in length and is about ten feet high. The walls are thick and are well built of selected but unhewn stones, the mortar used having apparently been of mud containing considerable lime and mixed with much broken grass. The ruin consists of but one wall, with no subdivision of the quite small cave behind it. Both faces of this wall are plastered with cement of the same kind as that used in the joints. The outer surface shows six broad vertical stripes that were once white. These stripes, which alternate with others of earth-color, equally broad, are clearly visible from the valley and for some distance toward Juchipila, and it is from their resemblance to windows that the cliff-house bears the designation "Las Ventanas." The four actual openings in the wall are all small, not unlike similar openings in many of the cliff-houses and pueblos in southwestern United States. The lowest of these (door?) openings is nearly two and a half feet high by slightly less than two feet in width. The three higher openings (windows?) are each about a foot and a half by a foot in height and width. The cave itself is empty and barren.

Another cave may be seen in the wall of the hill above the cliff-house, but it is not accessible by ordinary means. There are several other caves in the two hills.

The ruins between and on the hills consist mostly of low stone foundations. There are several small elevations, possibly mounds. The whole settlement was comparatively large. It is possible that these ruins are those of the original "Xuchipila," reduced by Oñate in the sixteenth century.[1]

The broad valley south of the Cerro de Chihuahua and that of

[1] Mota Padilla, *Historia*, p. 55.

Las Ventanas are covered with small elevations, and on many of these, for miles southward, are found remains of ancient occupancy. There are ruins on the Mesa de Guaje, near the Rancho de la Cantera, at several points near Pueblo Viejo, rancho Tempiske, etc. At various places in the valley I heard of painted earthenware idols, painted bowls, stone axes, shell objects, etc., as having been found accidentally or by treasure-seekers, but most of these objects were, as usual, broken and the rest dispersed. All that I was able to recover from the people of the valley are a single small bowl, much like some of the painted bowls from Totoate, and two interesting clay figures which remind one of similar objects from southern Jalisco and Tepic. One of these figures shows a series of nose-rings in place.

During my inquiries I was repeatedly informed of bone caves and bone discoveries near the Pueblo Viejo, above mentioned, which is a moderate sized village of mixed-blood Mexicans, a little more than ten miles south of Juchipila. On visiting this locality I found some ruins and caves, but all had been despoiled. Engaging some of the natives, I excavated at several places, and during the few days at my disposal found several old burials which yielded seven valuable skulls, as well as a few choice art objects including an onyx ceremonial axe, several copper nose-rings, and some decorated shell ornaments. The most interesting object recovered, however, is a piece of a human skull with two, apparently post-mortem, artificial perforations (plate XLI, 13). It was in this village that I purchased the little bowl, dug out in a field some months before, that so much resembles the painted pottery from Totoate, although the two places a reseparated by a distance of about one hundred miles. In general character the ruins themselves are much alike in the two localities.

North of Juchipila ruins seem to be more rare, but I had only limited opportunities for personal exploration, and the ignorant natives can not be trusted. Between the ranches of Cofradia and the large artificial lake south of it, near the road from Juchipila to Jalpa, I found a large, apparently ancient, regular, quadrilateral mound about two and a half feet high. This promising "*mogote*" has not yet been disturbed.

From Jalpa to Tabasco[1] the country is more sparsely populated, and I obtained no information or actual knowledge of value as to its archeology.

The Juchipila valley up to Tabasco is mostly inhabited by a mixed population, which in some localities approaches more the white, in others the Indian type. Among the more Indian physiognomies there is a general resemblance to those of Tepetitlan and San Pedro, and the skulls from near Pueblo Viejo show apparently the same type of people.

From Tabasco, continuing northward, the road leads toward Villa Nueva and the valley of La Quemada. This valley is separated from that of Juchipila by a low mountain ridge, on the southern slope of which are the ruins of another quite large ancient pueblo. There are many low stone foundations, many mounds or *mogotes* of stone or earth, and some walls or remnants of walls that probably once served for retaining the water and the soil. The whole ruin has thus far been left untouched by despoilers. The site of the ruin is known among the *arrieros* as Guayavo. Other ruins probably exist in the mountains to the northeast and west of this place.

LA QUEMADA

This great ruin, favored by its situation near Zacatecas, as well as through reference to it by early historical writers, such as Torquemada, Tello, and later Frejes, has received a fair amount of scientific attention, yet thorough exploration is still desirable. The best description and plans of the ruin are those of M. Guillemin-Tarayre, published in 1869.[2] The included plan by C. de Berghes is particularly valuable on account of its detail, which shows the ancient roads and many of the smaller habitations now difficult of location. During the present year L. Batres published a monograph on La Quemada[3] with some good photographic illustrations but very little new descriptive matter. Other accounts of the ruin have been published by Gutierrez, Lyon, Esparza (Rivera's account), Burkart, and Nebel.[4] In the light of these studies, my own observations can

[1] "Mecatabasco" in Mota Padilla, *Historia*, p. 56.

[2] *Archives de la Commission Scientifique du Mexique*, vol. III.

[3] *Visita a los monumentos arqueológicos de La Quemada*, Mexico, 1903.

[4] See Bancroft, *Native Races*, IV, 578–592.

convey but little that is new or of special value except that they may in a general way give indication of the character of the ruin as it exists today and point to certain important resemblances between it and the Totoate group as well as other ruins herein mentioned.

The Spanish name *La Quemada* signifies "the burnt (one)," but there is nothing now visible which justifies the name. If signs of fire in the structure existed when the Spaniards first saw it, they have disappeared, at least from the surface. Apparently Bancroft[1] is entirely correct in his opinion that "the name Quemada, 'burnt,' is that of a neighboring hacienda" and that "there is no evidence that it has any connection with the ruins," the local name of which is "Los Edificios." Yet the ruin is so generally known by the name La Quemada that the term has been retained in this paper.

The ruin is situated on a low, isolated mountain with three summits, a little south of the middle of the narrow valley which extends from the base of the mountains of the city of Zacatecas to some leagues below Villa Nueva. The mountain or hill of La Quemada is nearly thirty miles by road from Zacatecas, twelve miles north of Villa Nueva, and nearly four miles north of the Hacienda de la Quemada. From the highest point of the Cerro de los Edificios it is possible to view almost the entire valley as well as the slopes of the sierras that bound it laterally.

The ruin itself is unquestionably a remnant of the most remarkable ancient structure north of the Rio Santiago. In compactness and plan, in structural quality, and especially in differentiation of purpose, it exceeds not only the more northern Casas Grandes of Chihuahua or Zape in Durango, but also the celebrated Tula in the south. It represents a vast amount of labor and must have occupied, even with swarms of workmen, many decades in its construction; yet the entire structure seems to show unity of plan and continuity of execution. The ruin exhibits evidence of considerable age, but notwithstanding this and some recent spoliation, such as the removal of building stones for fences, it is still remarkably well preserved and is well worthy of further archeological study.

La Quemada is not the ruin of an ordinary town, although it contained some inhabitants. It was plainly a defensive structure,

[1] *Native Races*, IV, 579–580.

and unquestionably is the most elaborate ancient fortification in northern Mexico; at the same time it probably served as a theocratic center.

The ruin consists of: (1) Some outlying structures and terraces on the south. (2) A great temple and courtyard on an artificial (or at least partly artificial) high stone terrace that runs from the main ruin hill eastward. (3) A main pyramid, built on an artificial stone terrace on the east of the main ruin hill, a little northward from the temple. (4) The main ruin hill structures, built on several more or less artificial stone terraces. (5) Two structures between the main ruin and the more southwesterly hill. (6) A structure on the summit of the southwestern hill. (7) A structure in the depression between the northwestern and the northern hill. (8) Fortifications. (9) Connecting avenues and diverging roads.

1. The outlying part of the ruin consists of a pyramidal stone structure, now crumbling; a large, low flat terrace; a single straight row of ruined houses extending toward the base of the main ruin hill; and a broad, elevated avenue, paved with slabs laid flat, extending from the low terrace to that on which stands the temple. On the lower part of the southwestern slope of the main ruin hill are several regular, terraced rows of ruined dwellings which connect with the other outlying structures by the single row of houses above referred to.

2. The temple is nearly square. The walls, which are built of selected flat stones of medium size, still reach a maximum height of ten feet and are five to eight feet in thickness. Within the temple are eleven, mostly well preserved, perfectly cylindrical pillars, about five feet in diameter, built of selected smaller flat stones, laid in adobe-like mortar (now largely washed out) and reaching approximately the same height as the walls. The temple opens into a large, stone-filled court. The walls of the latter structure are lower than those of the temple; they are also not so thick and are not so well preserved. The row of columns that M. Tarayre mentions as having existed here have disappeared. One particular feature which I encountered in the court is some stone cysts, exactly like those found nearly seventy miles distant in the "temple" at the Banco de las Casas ruin in Jalisco. Near where

apparently the entrance to the temple courtyard was situated, and just at the proximal end of the paved avenue leading from the outlying structures to the temple, is a small, conical mound of stone. On and about this mound, and between the stones composing it, I found a number of fragments of pottery, among which were several with the paint-inlaid variety of decoration such as I recovered from Totoate and as was found at Momax, north of Tlaltenango.[1]

3. The great pyramid stands quite isolated in a large, quadrilateral, court-like space which opens eastward. The structure was apparently connected with the temple by an avenue or plaza. The stones from which it is built and the manner of building are similar to those of the walls throughout the ruin. It still stands about thirty-five feet in height on a wider stone terrace from six to twelve feet high. The pyramid is quadrilateral, each side measuring sixteen meters at the base,[2] with diameter gradually diminishing toward the summit, which is blunt and partly destroyed. The sides of the structure are oriented, although not perfectly. The walls are cracked and otherwise damaged, and only a mild earthquake, fortunately rare in this region, would perhaps suffice to demolish it. At the base of the main ruin hill and nearly in line with the pyramid is a cave of moderate size, the floor of which is paved with flat stones while the walls are blackened by smoke.

At some distance from the pyramid and cave there are some small scattered ruins, and the earth is sparsely mixed with small sherds of crude as well as of a better quality of painted earthenware. A stone flake may be found now and then. The whole place is thickly overgrown with tuña, making a full view of the lower structures very difficult.

4. The main ruin hill presents three large, more or less artificial, stone-built terraces which are barely accessible. Each of these terraces contains ruins of dwellings as well as of structures that probably served for ceremonial purposes and for assembly.

[1] It is probable that some of the potsherds have been brought to the surface by rodents. The owner of the Hacienda de la Quemada has in his collection two or three imperfect pieces of this paint-inlaid pottery and several pieces, also imperfect, of painted ware exceedingly like the Totoate variety, all obtained from or near the ruins of La Quemada. Some of the pieces, as well as additional specimens, are illustrated in plates 18, 22, and 23 of Batres' report, op. cit.

[2] According to Tarayre. Batres' measurements give 16 to 18.2 meters.

Throughout the terraces the quadrilateral form of construction prevails. In one spot only, on the middle terrace, may an exception be noted in a circular, kiva-like outline in the middle of one part of the ruin. The walls are always thick and are built throughout, in the same manner, of not very large, selected, more or less flat stones, the exposed face of many of which has undoubtedly been roughly fashioned, but in no case nicely hewn or rubbed down. It is probable that the stones were laid in some sort of adobe mortar, as mentioned by Tarayre and others, but if so it has weathered away. The terraces, which must have cost an immense amount of labor, are in regular but steep slopes, and are built in nearly the same manner as the walls of the various other structures.

The character of the terraces and walls is much like that of the ruins of the Totoate group and of those in southern Zacatecas, but the proportion of masonry in La Quemada is incomparably greater than that of any other ruin group. The construction in La Quemada reminds one also of that of the ruined stone-built pueblos in New Mexico and Arizona, although there are some pronounced differences between the former and the pueblo ruins of the north.

On the eastern portion of the first terrace is a ruin of a structure that consisted of a number of rooms of medium size. Farther westward are other ruins in poor condition. The middle terrace, apparently the most important one, shows high, fairly well preserved walls of large buildings which originally must have been at least two stories high. There is also a quadrilateral court, near the northern side of which is a small, flat-topped, stone-built, terraced pyramid, about ten feet high. The third terrace contains smaller ruins. On the southern slope of this part of the three-peaked mountain are, as mentioned before, five or six rows of ruined dwellings on low terraces. The very top of the main ruin hill is barren.

5. In the shallow saddle between the mountain last mentioned and the southwestern part is the ruin of a massive quadrilateral structure, and near this is the remnant of a stone terrace.[1]

6. The summit of the southwestern hill contains the ruin of a large stone house that must have been of more than one story and which contained several rooms. There is also near this house a pyramidal stone mound.

[1] See Tarayre's plan in his plate V or in Batres' report.

7. From the ruin just mentioned an avenue, not indicated on Tarayre's plan, slightly terraced and paved, leads downward toward the northern part of the mountain. Just at the base of this part is found, on a high terrace, the well-preserved ruin of another building of moderate size. Slightly behind this building is a regular space and some low ruins.

8. The entire northwestern hill and the whole of the northern hill are surrounded by a well-built defensive stone wall, ten feet broad (and even broader at the northwest), and in places from ten to twelve feet high. Formerly, according to Tarayre's plan, a similar wall extended also along the northern side of the southwestern hill, but today only traces of this remain. Some rude breastworks are intact on the western slope of the main ruin hill, commanding the saddle between this and that on the west; and there are various other structures which probably served as fortifications. Wherever the walls or fortifications end, the mountain presents either steep or totally inaccessible sides, or the bulwarks of the stone-built terraces. Altogether there rises before the visitor an imposing, massive, walled fortress of stone, not unlike some of the feudal strongholds of mediæval Europe.

9. Besides the avenue leading from the outlying works to the temple, that from the temple to the great pyramid (now traceable only with difficulty), and that leading from the ruin on the top of the southwestern hill to the one at the base of the northern part of the mountain, there can be made out, especially after the first rains of the wet season, owing to the difference in the color of the earth and other signs, several roads radiating from La Quemada in various directions. On occasions, I was informed, these roads can be traced for considerable distances.[1]

Nowhere in or about La Quemada have I found petroglyphs [2] or worked slabs of stone, such as are common at Totoate. Potsherds and stone flakes may be found almost everywhere about the ruin, but they are in no place abundant and at many points are scarce. Aside from the fragments of pottery above mentioned a day's search resulted in no important find.

[1] See Berghe's plan in Tarayre's report.

[2] Tarayre (and also Batres, plate 24) mentions and pictures the face of a rock in the neighborhood with several upright serpent figures, and by other authors a slab with carved hand and foot is spoken of.

With La Quemada the stone ruins of southern Zacatecas and the neighboring region practically end. It appears as if this structure was built through the combined efforts of a great people living farther southward and possibly including the entire population of the valley of Juchipila, Tlaltenango, and Rio de Bolaños, as a protection against northern invaders. The great ruined fort and *teocalli* can not be separated culturally from those to the south and southwest of it. The inlaid and painted pottery, the ceremonial axes, some of the idols, the ordinary axes (pictured by Batres), the peculiar stone cysts near the temple, the form of the stone structures, all connect it more immediately with Totoate, Momax, Teul, and other ruins referred to in this paper, than with those of any other region. There is some resemblance in type between the ruins of La Quemada and those at Zape and its vicinity (there are small stone ruins as far as Santa Catarina de los Tepehuanes), but from Zape to La Quemada, without any known connecting link in the way of ruins, there lies a stretch of nearly three hundred miles. There is also typical relation with more southerly ruins, but the first attention is claimed by those in the vicinity.

I trust that this account, superficial and imperfect as it necessarily is, will stimulate further and more extended research in the country of the "Chichimecs," a country hitherto supposed to be barren. As to the physical anthropology of this part of northern Mexico I shall have something more definite to present when the elaboration of my somatological material is completed.

In conclusion I feel obliged to refer, in a few words more, to the treasure-hunters in Mexico. There is no law to restrain such people, yet they destroy each year more ancient remains of every description than do the elements and all other sources combined. Wherever I searched for osteological or other remains of the ancient people, I encountered traces of this vandalism. As spoliation is here very largely due to ignorance, the Mexican civil authorities, men of science, clericals, and newspapers could do much good to local archeology by inspiring a proper regard for these interesting monuments and for the objects connected with them.

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